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ABSTRACT E-BOOK

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SOMMARIO

PREMIO BENZONI

Teleangectasie e vene varicose: come curarle con il laser

A. Crippa1

1. Medico chirurgo - Studio medico Crippa Dr. Angelo, Dolzago (Lc), Italia - Docente - International Academy of Practical Aesthetic Medicine (IAPEM) - Consulente per la formazione - International Union of Phlebology (UIP)

Teleangectasie e vene varicose (o varici) sono vene superficiali degli arti inferiori troppo dilatate che causano un'insufficienza della circolazione venosa. Per diagnosticare questa patologia, il medico si serve dell'anamnesi e dell'esame clinico del paziente, talvolta con l'integrazione di un eco-colordoppler. Teleangectasie e vene varicose colpiscono maggiormente le donne (con un'incidenza del 50-55%) rispetto agli uomini ed è direttamente proporzionale con l'avanzare dell'età. Tra i fattori di rischio dell'insufficienza venosa ci sono: familiarità, sovrappeso, ridotta mobilità, patologie cardiovascolari, alterazioni della postura e della dinamica deambulatoria. Le manifestazioni di tale patologia sono: dolore e pesantezza delle gambe, gonfiore di polpacci e caviglie, comparsa di capillari e macchie scure per la rottura di piccoli vasi. Nelle forme più gravi si registra anche la comparsa di ulcere della pelle. L'avvento di laser innovativi e altamente efficaci permette di curare le vene varicose. L'autore del presente studio ha utilizzato, in 40 anni di trattamenti su migliaia di pazienti, sia il laser endo-perivenoso con una lunghezza d'onda 808 NM per vasi maggiori di 3 mm (con fibre lineari e radiali 400/600 Micron) o minori di 3 mm (con fibre lineari e radiali 200/300 Micron). Nei casi di vasi di più piccole dimensioni ha utilizzato il laser a diodi transdermico con una tecnica combinata a doppio impulso con lunghezze d'onda 532 e 940 NM. Uno studio condotto su 85 pazienti donne ha mostrato esiti positivi: a quattro mesi dal trattamento con laser a diodi trasdermico non sono state segnalate né necrosi della pelle, né infezioni. Con il laser endo-perivenoso a tre mesi dal trattamento si rileva uno sbiancamento/scomparsa delle teleangectasie del 70% dei casi che

sale al 90% dopo sei mesi. Una galleria di immagini e video dimostrano i risultati ottenuti. Durante la relazione saranno illustrate nei dettagli anche tecniche, attrezzature, metodologie utilizzate nei principali casi-studio presi in esame.

Termoablazione mediante radiofrequenza della vena grande safena: tecnica con sistema di controllo real-time dell'impedenza vs tecnica standard

G. Dedone1, G. Turtulici1

1. Ospedale Evangelico Internazionale

Scopo del lavoro: Descrivere e valutare il sistema di termoablazione mediante radiofrequenze che consente il controllo in tempo reale dell'impedenza e confrontarlo con il tradizionale sistema di radiofrequenze in termini di sicurezza, efficacia ed outcome. Materiali e Metodi: La tecnica di termoablazione mediante radiofrequenze (RFA) con il sistema di controllo real-time dell'impedenza a differenza della RFA standard riproduce uniformemente il tempo e l'energia dell'ablazione nelle vene safene da trattare e controlla automaticamente il tempo e l'energia dell'ablazione in base alle condizioni intravascolari circostanti. Questa tecnica ha il vantaggio di trasferire più energia per le vene di maggior calibro e un'energia inferiore per le vene di minor calibro. Nel nostro centro abbiamo trattato con questa tecnica 50 vene grandi safene insufficienti. I pazienti sono stati sottoposti a follow-up dopo 1 settimana, 1, 3, 6 mesi e 1 anno. Risultati e Conclusioni: La procedura si è mostrata sicura, efficacie, ben tollerata dai pazienti, con tasso di obliterazione a 1 anno sostanzialmente equivalente alla RFA convenzionale. L'RFA convenzionale fornisce una temperatura e un tempo di ablazione costanti indipendentemente dall'ambiente circostante, l'eccessiva energia termica alle piccole vene può causare danni termici alla superficie esterna venosa. Pertanto, il trasferimento di calore adeguato può aiutare a ridurre le complicanze. Ciò può essere ottenuto mediante questo sistema di controllo dell'impedenza, in cui il tempo di ablazione aumenta per le grandi vene che richiedono un elevato livello di energia, mentre si

riduce per le vene di piccolo calibro in cui si verifica un rapido incremento dell'impedenza. Di conseguenza, questa nuova procedura ha il vantaggio di ridurre il tasso di recidiva nei vasi di grande diametro, il dolore e le complicanze nei vasi di piccolo diametro. Bibliografia: Insoo Park, M.D., Junseong Kwon, M.D. and Sujin Park, M.D.. Introduction of a New Device Using Impedance Controlled Radiofrequency Ablation (IC-RFA) Technique for the treatment of Chronic Venous Disease. Ann Phlebology 2022; 20(2): 111-112.

Podologia nel servizio sanitario nazionale: prevenzione e cura del piede diabetico e flebologico nella regione liguria.

A. Demoro1, C. Ongarelli1, D. Bottaro1

1. Ospedale Villa Scassi Genova

Podologia nel Servizio Sanitario Nazionale: Prevenzione e Cura del Piede Diabetico e Flebologico nella regione Liguria. Demoro A., Ongarelli C., Bottaro D. Il piede diabetico è una complicanza che deriva da specifiche alterazioni neurologiche o circolatorie legate al diabete. La ridotta sensibilità agli stimoli dolorosi o una cattiva circolazione possono portare allo sviluppo di piccole ulcere sulle dita dei piedi o sulla pianta del piede, che, se non trattate in modo tempestivo, possono peggiorare e richiedere l'amputazione. Il podologo svolge un ruolo preventivo nella gestione dei pazienti e collabora con medici e infermieri nel trattamento delle ulcere e nel monitoraggio del paziente una volta che le ulcere sono guarite. Circa 10 anni fa, un progetto chiamato Follow-Up for Diabetic Foot è stato lanciato presso l'ospedale pubblico Villa Scassi a Genova. Questo programma dedica due giorni alla settimana ai pazienti diabetici con fattori di rischio consolidati o pazienti con problematiche flebologiche per ricevere trattamenti podologici in una struttura convenzionata. Si tratta di pazienti che hanno sperimentato ulcere o amputazioni, per i quali il trattamento podologico e l'educazione del paziente svolgono un ruolo cruciale nella prevenzione per evitare recidive. I pazienti sono identificati come a rischio dagli specialisti (cardiologo, vascolare, endocrinologo, ortopedico,linfologo ecc.) e vengono indirizzati alla clinica di podologia dove vengono curati da un podologo. Il podologo conduce un esame obiettivo e ispeziona il piede (l'ispezione si estende anche alla scarpa e al calzino), fornisce un trattamento podologico e fabbrica ortesi in silicone per piedi deformati, feltraggi per alleviare la

pressione del piede e controlla solette e scarpe personalizzate progettate su misura per i pazienti. Se necessario, vengono eseguite medicazioni delle ulcere. Circa 3.000 pazienti diabetici vengono visitati ogni anno nei vari ospedali di ASL 3. Il progetto Follow-Up for Diabetic Foot rappresenta un metodo continuo di cura ed educazione per i pazienti con diabete e con patologie flebologiche, che ha ridotto significativamente le amputazioni e il trattamento di ferite difficili nella regione Liguria.

Which venous thromboprophylaxis for patients with extreme body weight?

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Introduction: Low Molecular Weight Heparin (LMWH), even more so than with Fondaparinux, has been considered for over 20 years a cornerstone treatment for reducing the risk of venous thromboembolism (VTE). However, uncertainties persist regarding the appropriate anticoagulant dosage in certain patient populations. Two such groups include patients with extreme body weights: obese individuals (BMI ≥30), who have more than twofold increased risk of thromboembolism, and underweight individuals (BMI ≤18.5 or ≤45 kg), who are at risk of therapeutic overdosing. Unfortunately, the literature on this topic is scarce, with a lack of randomized studies involving large populations. Methods: A comprehensive literature review was conducted using predominantly PubMed (1995-2024), employing these key words: enoxaparin OR fondaparinux OR body weight AND thromboprophylaxis OR treatment. Additional relevant articles were identified through citation tracking. Results: In obese patients, both medical and surgical, particularly in the context of bariatric surgery, evidence suggests a potential benefit from higher doses of LMWH (e.g., Enoxaparin 6000 IU/die, 4000 IU x 2/die or 0.5 mg/kg once or twice daily), in terms of thromboembolic prevention and achieving target anti-Xa plasma concentrations (0.2–0.5 IU/mL), without a significant increase in bleeding risk. While these benefits are more evident in patients with class III obesity (BMI ≥40), uncertainty remains regarding their use in patients with class I and II obesity (BMI 30–40). Fondaparinux 2.5 mg/die is approved for primary VTE prevention. Pharmacokinetic studies have shown that higher doses (5 mg/die), when compared with higher doses of Enoxaparin (4000 IU x 2/die), result in better achievement of anti-Xa activity (0.3–0.5 mg/L) in patients

with class II and III obesity (BMI ≥35–40). Therefore, a higher dosage may be considered in these patients, provided anti-Xa levels are monitored. In underweight patients, both medical and surgical, lower doses of LMWH (e.g., Enoxaparin 3000 IU/die) seem to offer advantages in terms of safety, by reducing the incidence of bleeding events, while still achieving appropriate anti-Xa activity. However, due to the unavailability of 3000 IU prefilled syringes, 2000 IU/die are often prescribed despite the lack of supporting evidence. Conversely, Fondaparinux, even at a dose of 1.5 mg, should be avoided in underweight patients, as no safety data are currently available for this population

Effetti a breve termine dei preparati topici eparinici post-scleroterapia

M. Marchesano

La scleroterapia è l'atto d'iniezione all'interno delle varici, reticolari e teleangectasie di sostanze che hanno lo scopo di obliterare i suddetti vasi sanguigni. Indipendentemente dal farmaco adottato, gli effetti avversi comuni, che si potrebbero manifestare nell'arco di qualche settimana, sono le trombosi secondarie, le iperpigmentazioni e il matting. L'introduzione della sostanza sclerosante nel vaso altera le cellule dell'endotelio causandone una lisi, attivando una risposta infiammatoria che a sua volta innesca la cascata coagulativa a livello locale. Il derivato eparinico ha un'azione antinfiammatoria e anticoagulante che potrebbe evitare il presentarsi delle reazioni avverse quali trombosi secondaria e iperpigmentazione cutanea, applicato nei tempi giusti. Sono stati arruolati un numero di pazienti pari a 12, tutti di sesso femminile che presentano teleangectasie, reticolari e varici di grande calibro e ordinate secondo la classificazione CEAP; sono state sottoposte a scleroterapia ed elastocompressione con contenzione elastica e spessori a livello dei vasi venosi trattati e tenuti in sede tutti costantemente per circa 72 ore, successivamente è stato applicato nelle zone trattate un agente eparinico con il massimo dosaggio per 5 giorni e altri 7 giorni a basso dosaggio. I risultati a 20 giorni dimostrano che su 12 pazienti solo 1 ha presentato effetti avversi quali la formazione di coaguli intravasali e lieve iperpigmentazione cutanea, in ribasso rispetto alle percentuali in letteratura scientifica. In conclusione lo studio, seppur con un ridotto campione, dimostra la possibile applicazione di queste sostanze eparinoidi nel diminuire la frequenza di complicazioni postscleroterapia ed invita a riflettere sulla possibilità di approfondire la tematica con ulteriori ricerche

High-intensity focused ultrasound (hifu) as a non-invasive treatment for VV in CVI

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1. Ippocrate vein academy

Introduction: This study investigates the use of High-Intensity Focused Ultrasound (HIFU) as a completely non-invasive treatment for superficial venous incompetence, specifically targeting the great saphenous vein (GSV). Traditional endovenous thermal ablation techniques, such as radiofrequency ablation (RFA) and endovenous laser treatment (EVLT), involve catheterbased delivery of heat (up to 120 °C) to induce vein wall necrosis. HIFU, by contrast, enables extracorporeal thermal ablation without the need for skin puncture, vascular access, or tumescent anesthesia. Objective: To evaluate the clinical feasibility, efficacy, and histological effects over time of HIFU treatment for GSV incompetence, focusing on vein shrinkage or closure and patient-reported outcomes. Materials and Methods: This single-centre, observational cohort study included 440 patients (490 lower limbs) with symptomatic GSV incompetence treated between December 2021 and June 2023. HIFU procedures were performed using the Sonovein® system. Immediate foam sclerotherapy was administered when indicated. Quality of life was assessed using the CIVIQ-20 questionnaire before and after treatment. Data were prospectively collected and retrospectively analyzed. All patients were classified as CEAP C2–C6 with symptom assessment based on the SYM-VEIN consensus. Duplex ultrasound confirmed reflux in the GSV. In most cases (97.3%), perivenous anesthesia with lidocaine 1% was used. Results: The final analysis included 440 patients (mean age 59 ± 13 years; 77.1% female) and 490 limbs treated, of which 375 (76.5%) involved GSV ablation. The mean GSV diameter was 6.6 ± 1.9 mm, with values up to 15 mm. HIFU achieved a high technical success rate and a favorable safety profile. The primary

endpoint—GSV shrinkage or occlusion at one-year follow-up—was met in the vast majority of cases, with significant symptom relief and no major adverse events. Conclusions: HIFU induces more controlled and less aggressive thermal effects compared to traditional endovenous techniques, offering the possibility of tailoring treatment for either vessel obliteration or lumen reduction while preserving elasticity. The Sonovein®-based HIFU system has shown excellent feasibility and efficacy in managing GSV incompetence, supporting its role as a truly non-invasive alternative in modern phlebology and introducing the concept of “incisionless surgery” for chronic venous disease.

May endovenous thermal ablation be considered a valid treatment solution for large, incompetent hunterian perforating veins?

F. Riccitelli1

1. Trieste - Sanatorio Triestino - Gruppo Garofalo Health Care

Introduction: The clinical picture of saphenous insufficiency manifesting with symptomatic varicosities in the antero-medial area of the limb cannot always be attributed to sapheno-femoral ostial or trunk saphenous incompetence. There are rarer cases where the point of escape originates from large incompetent branches in Hunter's canal, which render a caudally incompetent saphenous vessel that is otherwise healthy. Aims: Highlighting the applicability of endovenous laser ablation (EVLA) for this specific clinical condition, in which the literature remains controversial regarding both the hemodynamic effects that are involved and the related therapeutic possibilities. Materials and methods: At the Sanatorio Triestino Hospital in Trieste, endovenous laser ablation (EVLA) was performed using a 1470 nm laser on a young male patient with a hunterian perforating vein (hPV) larger than 6 mm in diameter. This vein supplied highflow superficial venous reflux into the great saphenous vein at the mid thigh, with symptomatic varicosities in the upper third of the leg (CEAP class C2s). Before the procedure, geometric and hemodynamic ultrasound parameters were calculated, including: diameter of the cranial and caudal segments of the saphenous vein relative to the emergence of the hVP; diameter of the hPV; direction and length of the hPV path; extent of reflux under Valsalva maneuver, Paranà maneuver, and distal activating maneuvers. The energy delivered was 2000 joules for the entire ablated venous segment, with 500 joules applied in the first 5 centimeters; the power output was 7 watts. Results: The treated hPV was found to be occluded on duplex examination

at 2 weeks and 6 months follow-up. The patient reported benefiting from the received treatment, particularly in terms of “leg heaviness”; no short-term complications or recurrences were observed; the size and spread of leg varicosities decreased significantly. Conclusions: Based on this case, the decision to intervene with EVLA in symptomatic venous insufficiency caused by reflux from hunterian perforating veins has proven effective and safe for the patient in the short term. This confirms the versatile applicability of the endothermal ablation technique, which nonetheless should always be performed following a thorough morphohemodynamic evaluation of the involved venous segment

P.E.F.S. e lipedema: confronto diagnostico tra due condizioni distinte

L. Ricolfi

Il Lipedema e una patologia infiammatoria cronica su base, tendenzialmente evolutiva e potenzialmente invalidante che può iniziare a manifestarsi durante la puberta, in periodo perigravidico, peri o post menopausale. Si tratta di una patologia autosomica dominante a penetranza incompleta caratterizzata da un eccesso di tessuto adiposo patologico localizzato a livello soprafasciale con sviluppo discendente simmetrico e bilaterale e può coinvolgere uno o più distretti corporei.Il Lipedema può complicarsi da alterazioni locoregionali vascolari o linfologiche ed è caratterizzata comorbilità di pertinenza endocrino-metabolica. Manifestazioni tipiche sono la fragilita capillare, con estrema facilita insorgono lividi, derivante da una microangiopatia più o meno marcata, il dolore, spontaneo o evocabile alla minima palpazione in punti trigger e la presenza, più o meno marcata, di piccoli noduli sottocutanei. Fondamentale risulta la corretta diagnosi soprattutto negli stadi più precoci per poi indirizzare le pazienti al team multidisciplinare di riferimento per la formulazione di un piano multidisciplinare terapeutico assistenziale calibrato “ad hoc” sulle esigenze cliniche della paziente. La P.E.F.S. è invece un inestetismo caratterizzato da alterazioni cutanee a “fossetta” ed è presente in circa l’85-90% delle donne in età postpuberale. Sebbene la fisiopatologia della cellulite non sia ancora del tutto chiarita, evidenze sperimentali indicano un processo multifattoriale che coinvolge la formazione di setti fibrosi, la disfunzione microvascolare, l’infiammazione sottocutanea, la riduzione dello spessore del derma con l’età. La P.E.F.S. rappresenta un importante problema estetico per molte donne e sono state valutate diverse tecniche, sia non invasive (ad esempio, massaggi, cosmeceutici, laserterapia) che mini-invasive (ad esempio, subcisione, iniezione di collagenasi) per migliorare l’aspetto della cute interessata.

From connective tissue to muscle: an observational ultrasound study exploring structural and sensory alterations in lipedema

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La scleroterapia è l'atto d'iniezione all'interno delle varici, reticolari e teleangectasie di sostanze che hanno lo scopo di obliterare i suddetti vasi sanguigni. Indipendentemente dal farmaco adottato, gli effetti avversi comuni, che si potrebbero manifestare nell'arco di qualche settimana, sono le trombosi secondarie, le iperpigmentazioni e il matting. L'introduzione della sostanza sclerosante nel vaso altera le cellule dell'endotelio causandone una lisi, attivando una risposta infiammatoria che a sua volta innesca la cascata coagulativa a livello locale. Il derivato eparinico ha un'azione antinfiammatoria e anticoagulante che potrebbe evitare il presentarsi delle reazioni avverse quali trombosi secondaria e iperpigmentazione cutanea, applicato nei tempi giusti. Sono stati arruolati un numero di pazienti pari a 12, tutti di sesso femminile che presentano teleangectasie, reticolari e varici di grande calibro e ordinate secondo la classificazione CEAP; sono state sottoposte a scleroterapia ed elastocompressione con contenzione elastica e spessori a livello dei vasi venosi trattati e tenuti in sede tutti costantemente per circa 72 ore, successivamente è stato applicato nelle zone trattate un agente eparinico con il massimo dosaggio per 5 giorni e altri 7 giorni a basso dosaggio. I risultati a 20 giorni dimostrano che su 12 pazienti solo 1 ha presentato effetti avversi quali la formazione di coaguli intravasali e lieve iperpigmentazione cutanea, in ribasso rispetto alle percentuali in letteratura scientifica. In conclusione lo studio, seppur con un ridotto campione, dimostra la possibile applicazione di queste sostanze eparinoidi nel diminuire la frequenza di complicazioni postscleroterapia ed

invita a riflettere sulla possibilità di approfondire la tematica con ulteriori ricerche

Analisi dell'outcome a breve e lungo termine nel posizionamento di filtri cavali temporanei per trombosi iliaco-cavali in pazienti affetti da covid19. Esperienza monocentrica su 48 casi consecutivi e revisione della letteratura

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SCOPO DEL LAVORO: Il biennio 2020-2021 è stato caratterizzato, come noto, dalla pandemia da COVID19. Sono ormai noti gli effetti protrombotici associati all'infezione da Sars-Cov-2 e la prevalenza di eventi trombotici sul sistema venoso superficiale e profondo. L'obiettivo dello studio è stata la valutazione dell'outcome a breve e lungo termine nei pazienti sottoposti a posizionamento di filtro cavale per trombosi venosa profonda aorto-iliaca sintomatica e di riscontro occasionale MATERIALI E METODI: Sono stati considerati 48 pazienti consecutivi trattati nel biennio 2020-2021 con filtro cavale temporaneo CELECT COOK. Ogni paziente risultava affetto da trombosi venos profonda del distretto iliaco-cavale sintomatica o asintomatica in coso di infezione per COVID19. Per ciascun paziente sono state considerate le caratteristiche angrafiche, i fattori di rischio, i dati clinici e strumentali riguardanti il posizionamento del filtro. Gli endpoints considerati sono stati: mortalità a 30 giorni, a 6 mesi e a un anno, rimozione del filtro entro 30 giorni, entro 1 mese, entro 3 mesi o permanenza dello stesso; sono state inoltre valutate le complicanze nella rimozione, la trombosi del filtro e la persistenza del procesos trombotico con o senza terapia anticoagulante associata. In ultimo, sono stati considerati episodi di embolia polmonare successivi al posiziomamento. RISULTATI Per tutti i 48 paziente considerati vi è stato un successo tecnico nel posizionamento del 100%. La mortalità a 30 giorni è stata di 8 pazienti, a 6 mesi di 2 pazienti e ad un

anno di 4 pazienti; per 27 pazienti è stato possibile rimuovere il filtro entro 30 giorni, per ulteriori 16 entro 3 mesi e solo per 5 pazienti è stato necessario lasciare il filtro a permanenza. Non sono state riscontrate trombosi del filtro ne episodi di embolia polmonare. CONCLUSIONI: Il posizionamento del filtro cavale in pazienti affetti da COVID19 si è dimostrato efficace e sicuro. Solo per pochi casi è stato necessario ricorrere ad una permanenza dle filtro in sede. Nonostante la protrombogenicità del processo infettivo di base, non sono state dimostrate trombosi del filtro. Il posizionamento di filtro cavale si è dimostrato quindi una valida soluzione nella prevenzione dell'embolia polmonare. Allineati con la letteratura in essere, saranno necessari ulteriori studi per verificare il beneficio a più lungo termine

Le varici pelviche

G. Terracciano1

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Introduction: As the importance of pelvic venous disorders (PeVD) has been increasingly recognized, progress in the field has been limited by the lack of a valid and reliable classification instrument. Misleading historical nomenclature, such as the May-Thurner, pelvic congestion, and nutcracker syndromes, often fails to recognize the interrelationship of many pelvic symptoms and their underlying pathophysiology. Based on a perceived need, the American Vein and Lymphatic Society convened an international, multidisciplinary panel charged with the development of a discriminative classification instrument for PeVD. Background: One of the underestimated causes of chronic pelvic pain (CPP) in women may be pelvic congestion syndrome (PCS) that is defined as the presence of varicose of ovarian and pelvic veins associated with chronic pain in the region of the pelvis. This pain is present longer than 6 months and intensifies with prolonged standing, coitus and menstruation.Transcatheter ovarian vein embolization might be a safe and effective option for PCS treatment. Objectives: was to evaluate the efficacy of ovarian vein embolization ovarian as a method of the PCS treatment. Material and methods: Between 2014-2024, 18 embolization procedures were performed in 16 women (age range: 32-47; median age 38) with the diagnosis of PCS. One patient underwent embolization procedure twice. In 1 case the combined therapy of endovascular embolization and surgical phlebectomy of vulvar varices was performed. Results: There were no major intra-interventional complications. In all the patients (100%) a significant improvement in the clinical status was noted. The procedure improved the quality of life in the patients. Three women (30%) had a mild recurrence of the symptoms at mid-term follow-up. Among 9 women who had complained of dyspareunia

prior to embolization 7 patients reported complete pain relief, in other 3 cases the pain subsided partially. There was a significant decrease in the severity of symptoms associated with hemorrhoids. Conclusions: We consider embolization of insufficient ovarian veins an effective and safe way of treatment in a well-selected group of patients with PCS.

DOACs' personalized choice: are there any differences?

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Aim: According to the most recent Guidelines, DOACs are now considered the first choice for treating and preventing venous thromboembolism (VTE) and embolism prevention in atrial fibrillation (AF). This presentation will examine how to potentially tailor DOACs' therapy in some special populations, where the evaluation of drugs' pharmacokinetic, the patient's profile (i.e., age, weight, relevant comorbidities, renal and hepatic function, bleeding risk), and potential drug-drug interactions may lead to a specific choice. Materials and methods: The data presented here is derived from current AF and VTE Guidelines issued by the European Society of Cardiology (ESC), the 2021 Practical Guide by the European Hearth and Rhythm Association (EHRA), the ISTH Consensus Guidelines, and DOAC registration studies. Results & Conclusions: According to the existing literature, DOACs are in general safe and effective in several special populations; some of those are discussed below. Cancer and VTE: the 2019 ESC Guidelines recommend Xa inhibitors (apixaban, rivaroxaban and edoxaban) over VKA, excluding dabigatran. 1. 2. 3. • Renal impairment and AF: according to the 2024 ESC Guidelines and DOACs registration studies, dose adjustment is recommended to avoid an excessive bleeding risk, and dabigatran should be used with caution. As recent data suggests, apixaban is now approved in the United States for patients with end stage kidney disease. Hepatic impairment: DOACs are contraindicated in Child-Pugh Class C, whereas in Class B rivaroxaban is contraindicated due to its enhanced hepatic metabolism. On the other hand, DOACs are considered safe in mild impairment. Patients receiving DOACs and antiepileptic drugs: many antiepileptic drugs may interact with all DOACs, thus raise

concerns regarding their efficacy. The 2021 EHRA Practical Guide advises caution or contraindicates coadministration; in some circumstances, blood level monitoring may be useful. Menstrual cycles and VTE: according to a posthoc analysis, women treated with dabigatran had a lower incidence of vaginal bleeding compared to VKA, while rivaroxaban and edoxaban show an increased bleeding rate. Extreme weights: the 2021 ISTH Guidelines recommend rivaroxaban or apixaban for obese patients (BMI > 40 Kg/m2 or body weight > 120 Kg), while there are no clear data in case of underweight people (< 50 Kg or BMI > 18,5 Kg/m2).

COMUNICAZIONI ORALI

Venous variant anatomy and terminology.

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Variant anatomy, which is an integral part of anatomical science, is related to abnormalities in the human body structure. Our understanding of variant anatomy is based on thousand years of anatomical experience. These abnormalities generally do not interfere with the function of the human body and do not typically manifest as pathological nosological units. However, under certain conditions, these abnormalities can worsen existing pathological states or even evoke new ones. Understanding variant anatomy is a basic skill not only of mere anatomists, but also of clinicians who work in fields involving both diagnostic techniques and therapeutic interventions. To gain and retain a good knowledge of the most frequent and clinically relevant anatomical variations, a simple, clear, and exactly defined nomenclature of variant structures is needed. A list of items comprising variant anatomy, which have been incorporated into the internationally accepted nomenclatures: Terminologia Anatomica (1998) and Terminologia Neuroanatomica (2017), is described and analyzed. Examples of the most common anatomical variations related to terminology are mentioned, and variant anatomy as a whole and its role in understanding current anatomy are discussed. Last, but not least, it is necessary to list several precise definitions for terms concerning variant vascular anatomy in order to understand their mutual di erences:

- Vas anastomoticum = Anastomosis - a blood vessel connecting two or more vascular networks supplied by another source vessel or collected in another collecting vein.
- Vas collaterale = Collateral - a blood vessel forming a parallel canal supplying the same area from one source vessel or draining the same area into the same vein.

- Vas accessorium = Accessory vessels - a vessel supplying the same area as the proper one, but branching from the proper source vessel or from a neighbor one (a part of variant anatomy).
- Vas aberrans = Aberrant vessel - a vessel supplying the same area as the proper one but branching from another source vessel or from a separate network (a part of variant anatomy).

In conclusion, the recognition of variant anatomy and its terminology is riddled with inconsistences. The task for anatomists is to devote time and e ort to two tasks: the management of anatomical variations'classification, nomenclature, and frequency and the development of a free, accessible, detailed database, conveying comprehensive, fieldrelated, and clinically oriented/relevant knowledge to clinicians.

Nutrition in the pathway of gender affirmation: the role of the microbiota

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Nutrition plays a fundamental role in the process of gender transition, influencing both physical and biological aspects, including the gut microbiota. The microbiota, which refers to the community of microorganisms that colonize our gastrointestinal tract, is involved in numerous physiological processes, such as mood regulation, immune system function, and metabolism—all elements that can impact gender identity and the psychophysical well-being of transgender or transitioning individuals. Some studies suggest that the microbiota can influence the metabolism of sex hormones, such as estrogens and testosterone, modulating circulating levels and contributing to a more favorable hormonal balance during transition. The gut microbiota produces neurotransmitters and metabolites that communicate with the central nervous system via the gut-brain axis. A state of Eubiosis can help reduce anxiety, depression, and stress, support a balanced immune system, and decrease chronic inflammation, all of which can influence overall well-being and self-perception. In conclusion, nutrition and the microbiota represent an important interface in the process of gender affirmation, affecting physiological and psychological aspects. Promoting a balanced diet rich in foods that support a healthy microbiota can serve as a supportive element in the transition journey, contributing to overall well-being and the realization of gender identity.

Lipedema inflammation: how “diet” modifies the outcome

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Lipedema and inflammation are often interconnected conditions, characterized by abnormal fat tissue accumulation and chronic inflammatory processes. Diet plays a crucial role in modulating these processes, influencing both inflammation and body fat distribution. Chronic low-grade inflammation is a key component in lipedema. The accumulation of adipose tissue can promote a pro-inflammatory state, which in turn can worsen symptoms, promote disease progression, and contribute to complications such as circulatory problems and pain. Among common alterations in these patients are obesity (including weight gain and visceral obesity), insulin resistance, and gut dysbiosis. Pro-inflammatory effects at the tissue level and pro-adipogenic effects have been demonstrated. Although lipedema is not caused by obesity, maintaining an adequate body weight can reduce stress on the lymphatic system and improve symptoms. Nutritional intervention should aim to reduce the overall inflammatory state, with particular attention to affected areas, starting with weight reduction. A balanced diet rich in anti-inflammatory foods such as fruits, vegetables, whole grains, and omega-3 fatty acids can help reduce systemic inflammation and improve skin and connective tissue quality. Conversely, diets high in refined sugars, saturated fats, and processed foods can worsen inflammation and contribute to the worsening of lipedema. Personalizing the diet, combined with an active lifestyle, represents an effective strategy to manage symptoms, improve quality of life, and modulate the progression of these conditions.

Il ruolo del fisioterapista e della nutrizione in paziente con lipedema

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Introduzione: il lipedema è una patologia genetica cronica che interessa il tessuto connettivo lasso. Influenzata dai cambiamenti ormonali femminili, compare solitamente durante la pubertà, gravidanza, menopausa e colpisce quasi esclusivamente le donne. Caratterizzata da un progressivo aumento del tessuto adiposo a carico di alcuni distretti corporei, quali fianchi, arti inferiori e superiori, non coinvolge mani e i piedi. Scopo dello studio: proporre un protocollo terapeutico-riabilitativo di gestione del paziente affetto da lipedema dalla diagnosi al trattamento fisioterapico e nutrizionale, mirato al controllo dei sintomi e al miglioramento della qualità di vita. Materiali e metodi: la valutazione fisioterapica, supportata dalla diagnosi medico specialistica, ha analizzato le caratteristiche del tessuto, misure circonferenziali, valutazione del dolore alla palpazione tramite scala VAS. Il trattamento fisioterapico, mirato alla riduzione dell'edema e del dolore, a migliorare la mobilità e funzionalità degli arti e a prevenire complicanze secondarie, si è composto di: tecniche di terapia decongestionante e antalgica (bendaggio multicomponente, linfodrenaggio, terapia manuale, onde d'urto, radiofrequenza), esercizio attivo, mobilità, respirazione, rieducazione attiva del passo. La nutrizione clinica personalizzata, in sinergia con l'intervento fisioterapico, contribuisce al controllo del dolore, della regressione del tessuto adiposo patologico e al miglioramento della qualità della vita. Risultati: la collaborazione in un team multidisciplinare ,sulla base delle attuali conoscenze scientifiche, ha permesso di sviluppare un protocollo di gestione del lipedema dalla diagnosi medica al trattamento fisioterapico e nutrizionale, mettendo in primo piano l'azione del fisioterapista, che si occupa della valutazione iniziale, dell'intervento terapeutico mirato e del follow- up clinico. Altrettanto fondamentale è il ruolo del nutrizionista, che affianca il paziente in un percorso alimentare personaliz-

zato e sostenibile. Conclusioni: la collaborazione del lavoro fisioterapico e nutrizionale, con supporto medico e psicologico, è fondamentale per definire il giusto timing d'intervento, essenziale per un'efficace gestione dei sintomi, funzionalità fisica e qualità della vita dei pazienti con lipedema

Do we know enough about fibromyalgia?

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Fibromyalgia (FM) is a complex and heterogeneous syndrome, characterized by widespread musculoskeletal pain, fatigue, non-restorative sleep, cognitive dysfunction, and psychological symptoms. It affects an estimated 2–4% of the general population, predominantly women between the ages of 30 and 60, although it is increasingly recognized across genders and age groups. Despite its high prevalence and significant impact on quality of life, FM continues to be underdiagnosed and often misunderstood, both by healthcare professionals and the public. The diagnostic process remains challenging, as FM lacks specific biomarkers and presents with symptoms that overlap with those of other rheumatologic, neurologic, and psychiatric disorders. While the ACR criteria have evolved over the years—from tender point examination to symptombased scoring systems—clinical recognition still requires experience and a holistic view of the patients.Pathophysiologically, FM is considered a central sensitivity syndrome, with key mechanisms including altered pain processing, dysfunction in descending inhibitory pathways, dysregulation of neurotransmitters (such as serotonin, norepinephrine, and dopamine), and low-grade neuroinflammation. Functional neuroimaging studies have shown abnormal activation in brain regions associated with pain perception and affective modulation. Additionally, autonomic dysfunction, small fiber neuropathy, and hypothalamic–pituitary–adrenal (HPA) axis alterations may contribute to the symptom burden.There is also increasing recognition of a potential role for gut–brain axis dysregulation and microbiota alterations in FM, which may influence both immune and neuroendocrine pathways. These insights open new avenues for understanding the syndrome beyond the musculoskeletal system.From a therapeutic perspective, FM management must be mul-

timodal and tailored to the individual. Pharmacological options—such as duloxetine, pregabalin, and low-dose amitriptyline—may offer partial relief but are often limited by side effects or modest efficacy. Nonpharmacological interventions are now recognized as the cornerstone of treatment. Aerobic exercise, cognitivebehavioral therapy, mindfulness, and sleep hygiene have shown consistent benefits. Nutritional strategies and the use of selected nutraceuticals (such as magnesium, vitamin D, coenzyme Q10, and S-adenosylmethionine) are gaining attention, particularly for patients seeking integrative approaches.Among complementary and integrative therapies, systemic oxygen–ozone therapy has shown anti-inflammatory and immunomodulatory properties that may help reduce fatigue and pain. Hyperbaric oxygen therapy (OTI) has demonstrated potential in improving tissue oxygenation and modulating oxidative stress in FM patients. Medical cannabis may be considered in selected cases, particularly for sleep and pain control, when conventional options are insufficient. Additionally, neuromodulatory techniques such as transcranial direct current stimulation (tDCS) and repetitive transcranial magnetic stimulation (rTMS) are under investigation for their ability to restore balance in cortical excitability and mitigate central sensitization. While further studies are needed, these approaches offer promising adjuncts within a personalized treatment plan. In conclusion, although progress has been made, FM remains an area of unmet clinical need. A deeper understanding of its mechanisms, earlier recognition, and a personalized, biopsychosocial treatment model are necessary to improve patient care. This presentation will explore current evidence, unresolved questions, and the evolving paradigm of fibromyalgia, urging clinicians to look beyond symptoms and adopt a comprehensive, empathetic approach

Polycystic ovary syndrome, endocrinological disorders and phlebological treatments

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The polycystic ovary syndrome (PCOS) is an endocrine condition of pathological interest, much more articulated than a simple hormonal imbalance and ovarian dysfunction. Since it is not considered systemically, it is almost exclusively treated from a gynaecological perspective. However, the presence of insulin resistance and hyperinsulinaemia do not only contribute to the hyperandrogenism onset, but also to the vascular dysfunction and chronic low-grade inflammation, predisposing to symptoms such as water retention, oedema and chronic venous insufficiency even in young and normalweight women, making the whole situation much more unusual. In this work, therefore, we aim to include phlebological evaluation in the diagnostic-therapeutic pathway of PCOS to show how pelvic microcirculation as well as vascular health can influence fertility and endometrial receptivity. Targeted treatments, such as lifestyle modifications, compression therapies and minimally invasive interventions, can be an important aid to hormonal and metabolic management. A change in perspective that recognises the PCOS patient as a true systemic patient is therefore essential.

Integrated management of the phlebopathic patient

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The integrated management of phlebopathic patients represents a multidisciplinary care model aimed at improving the effectiveness and continuity of treatment for chronic venous diseases such as venous insufficiency, varicose veins, thrombosis, and venous leg ulcers. Through a patient-centered approach, this model combines the contributions of various healthcare professionals - general practitioners, phlebology specialists, nurses, physiotherapists, and, when necessary, vascular surgeons - to ensure early diagnosis, personalized treatment plans, and effective follow-up. The use of clinical tools such as the CEAP classification and venous duplex ultrasound allows for an accurate assessment of the clinical picture. Therapy is based on conservative approaches (compression therapy, pharmacological treatment, skin care), interventional procedures (sclerotherapy, endovascular techniques, surgery), and patient education, with the aim of preventing complications, improving quality of life, and reducing hospitalizations. The integrated model thus represents an effective and sustainable strategy for the longterm management of phlebological conditions.

The role of ultrasound in monitoring therapy for lipedema (pharmacological and compression therapy). Traditional ultrasound vs 3d volumetric ultrasound.

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Introduction: To monitor therapy for lipedema with greater accuracy and reproducibility, thereby allowing for better modulation of treatment by selecting a method that is simple, repeatable, and above all, precise and reliable. Materials and Methods: A GE Voluson E10 ultrasound machine was used, equipped with two high-frequency linear probes: the first a matrix probe, the second a 3D volumetric probe with a pendular scanning mechanism. Measurements from the second probe were processed using the "Vocal" calculation algorithm, which has so far been employed in volume and weight assessments in prostate screening. Ten women undergoing pharmacological and compression therapy were monitored biweekly over a period of three months. Each underwent an ultrasound study first with the linear probe and then with the volumetric one, using a small removable tattoo as a reference point to ensure repeatability of the examination. Results: Ultrasound proved to be a simple, reliable, and—most importantly—repeatable method. Volumetric ultrasound showed significantly higher sensitivity; rather than evaluating just a single layer, it assessed an entire volume, providing greater precision in calculations and more reliability in relation to the biological model. Ultrasound follow-up also enabled the clinician to tailor the initial therapy based on ongoing results, thereby ensuring a better final outcome. Conclusions: Our experience demonstrated how technology and imaging now represent essential support for clinicians in treating a condition like lipedema, which is highly influenced by sub-

jectivity. Ultrasound follow-up allows therapy to be personalized, and the increased reliability and accuracy of measurements obtained with the Vocal 3D system have simplified the method, making calculations—and thus therapeutic results—more dependable.

Nutritional approach in the phlebo-lymphology clinic

A. Carotenuto

A New England Journal of Medicine (Green at all 2012) recent study has raised the alarm: in the United States obesity is affecting one third of the population and may be the cause of lower-extremity lymphedema. Medical findings suggest that obesity can therefore be one of the causes of lower-extremity lymphedema. An increased BMI might be a useful tool to determine a threshold above which lymphatic flow becomes impaired. The quantity of adipose tissue in lower extremities reduces the proximal lymphatic flow compromising the normal functioning of the system due to compression and/or inflammation. As the amount of adipose tissue increases in lower extremities lymphatic vessels may become dysfunctional due to compression and inflammation. A low proximal obesity lymphatic flow and inflammation damages extra vasal macromolecules and the increase of parietal permeability. The release of fibro-genetic cytokine contributes to the destruction of extracellular matrix. in a 2015 study, Dr. Greene group shows how lymphedema is irreversible beyond a BMI 50 cut off even with drastic weight loss. Our conclusions suggest that obese patients with lymphedema must follow focused dietary-therapeutical plans before reaching the 50 BMI threshold after which lymphedema is considered irreversible. Data show that diet and physical activity lower the risk of developing lymphedema. Obesity is strictly connected to the development of numerous pathologies; however, it has a two-way relationship with the lymphatic system. Obesity is the main factor contributing to progression and development of lymphedema, on one hand through migration and modulation of inflammatory cells and on the other increasing permeability of lymphatic vessels. If overweight, there is no “lymphatic” diet but certainly a moderate hypocaloric diet can be followed; the content of fibers is to be increased in the diet *LARN 30gr/day) with legumes, fruit, whole

cereals, mixed berries; drink at least 2lt of water a day and drastically limit the use of salt. It is often recommended the use of phlebotonic draining and alkalizing supplements (citrates and carbohydrates Mg and K to make the ph more alkaline); Special protocols like normoproteic ketogenic diet protocols are used.

Tromboembolismo venoso nei pazienti in terapia con contraccettivi orali o preparati ormonali

P. Chiarugi

Le trombosi venose sono complicanze ben consolidate della terapia ormonale. Il rischio di trombosi si osserva sia con i contraccettivi ormonali che con la terapia ormonale sostitutiva per la menopausa e la transizione di genere. Negli ultimi decenni, ampi studi epidemiologici hannocontribuito a definire meglio questi rischi. Il rischio di trombosi con composti contenenti estrogeni aumenta con l'aumentare della dose sistemica di estrogeni. I prodotti contenenti solo progesterone non sono associati a rischio significativo di trombosi, ma quando sono uniti ad estrogeni in contraccettivi orali combinati la formulazione del progesterone influisce sul rischio. Quando si prende in considerazione la contraccezione ormonale o la terapia ormonale sostitutiva, i medici devono considerare una varietà di fattori tra cui il tipo di ormone, la dose, la via di somministrazione, la storia personale e familiare di trombosi e altri fattori di rischio protrombotico per prendere decisioni informate e personalizzate in merito al rischio di trombosi venosa.

La carbossiterapia cura le vene varicose. Uno studio su 80 pazienti donne over 40

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Le ricerche epidemiologiche dimostrano che la malattia venosa cronica (o malattia varicosa degli arti inferiori) è sempre più diffusa nei Paesi occidentali. Questa patologia colpisce in prevalenza il sesso femminile e la sua diffusione è direttamente proporzionale con l'avanzare dell'età. Le cause principali sono familiarità, ortostatismo prolungato, obesità, gravidanze, attività lavorative con prolungata stazione eretta o seduta, frequenti esposizioni a fonti di calore, difetti di postura dei piedi, calzature troppo strette, stipsi cronica, malformazioni vascolari, pregresse trombosi venose superficiali o profonde. L' OMS ha definito come varicosa una vena superficiale, dilatata e tortuosa nella quale il sangue circola controcorrente. A causa dell'ipertensione venosa, che porta gradualmente alla dilatazione delle vene superficiali, le manifestazioni della malattia venosa cronica sono pesantezza, gonfiore e dolore degli arti inferiori. È noto che la carbossiterapia riabiliti la microcircolazione poiché regola e/o aumenta velocità ed entità del flusso ematico tessutale locale e determina un incremento della sfigmicità arteriolare e metarteriolare, un aumento della deformabilità eritrocitaria e un rilassamento delle fibrocellule muscolari lisce degli sfinteri precapillari. Da gennaio 2020 abbiamo sottoposto a terapia con carbossiterapia (con un ciclo di sei sedute somministrando 1000 ml per emilato) 80 pazienti femmine (in una fascia di età tra 40 e 70 anni) con malattia venosa cronica e sintomi variabili. Il trattamento con carbossiterapia ha migliorato la sintomatologia nell'80% delle pazienti e nel 20% una diminuzione dei sintomi.

Rara variante della sindrome di cockett: compressione estrinseca bilaterale della vena iliaca comune media

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La sindrome di Cockett è una sottocategoria della sindrome di May-Thurner e rappresenta una condizione clinica rara ma significativa e comunemente sottodiagnosticata, causata, nella sua presentazione più frequente, dalla compressione estrinseca della vena iliaca comune media. Qui descriviamo una variante di sindrome di Cockett dovuta a compressione estrinseca delle vene iliache comuni destra e sinistra, con manifestazioni cliniche a carico del circolo venoso superficiale bilaterale reiterati nel tempo. Presentiamo il caso di un paziente maschio di 58 anni, portatore di ICD, sottoposto nel passato a sostituzione dell'aorta ascendente per rottura e sostituzione della valvola aortica con protesi meccanica già in terapia anticoagulante, sottoposto nel passato a safenectomia interna bilaterale e successivi reinterventi per varici recidive bilaterali. Il paziente si presentava alla nostra attenzione per importante edema bilaterale, maggiore a sinistra e varicosità recidive sintomatiche bilaterali con importanti neocrosse safeno-femorali, riferendo, inoltre, claudicatio venosa. All'esame ECD venoso degli arti inferiori si evidenziava bilaterale pervietà dell'asse venoso profondo e superficiale con vene ben distese, attivabili e comprimibili in tutti i distretti in particolare pervio sia il distretto femorale profondo che superficiale bilaterale. Cava inferiore collassabile, vene iliache comuni ben visibili, pervie e di buon calibro, impossibile valutare il tratto medio delle vene iliache esterne di ambo i lati. Nel sospetto di sindrome compressiva venosa iliaca veniva sottoposto ad angioTC venosa degli arti inferiori, che documentava compressione delle vene iliache comuni distali "pinzate" dalle biforcazione

iliaca arteriosa omolaterale, a sinistra aggravata dal decubito sul corpo vertebrale. In relazione al quadro clinico ed iconografico è stato sottoposto a diagnostica IVUS e successivo trattamento endovascolare mediante angioplastica e stenting venoso iliaco bilaterale, con buona ripresa di calibro dei vasi trattati ed immediato beneficio sui sintomi da stasi. In follow-up verrà valutato il trattamento più appropriato per le varicosità recidive. La sindrome di Cockett ed in generale le compressioni venose iliache restano sottodiagnosticate nei pazienti che si presentano ai flebologi con sintomi da insufficienza venosa superficiale. Questa causa ha una prevalenza compresa tra il 2% e il 5%. La diagnosi avviene dopo imaging di secondo livello, data la negatività per eziologie più comuni. Nonostante la variabilità nella sede e nell'estensione, la compressione della vena iliaca comune sinistra nella maggior parte dei casi si verifica tra arteria iliaca comune destra e piano vertebrale lombare. In Letteratura sono presenti case reports riguardanti Sindrome di Cockett atipica con compressione della vena iliaca comune anche a destra 1, è presente un unico case report che documenta compressione venosa iliaca bilaterale 2, a destra della vena iliaca comune tra arteria iliaca esterna ed arteria iliaca interna e a sinistra della vena iliaca comune tra arteria iliaca destra e piano vertebrale. Il nostro caso, analogo al precedente per quanto riguarda la compressione venosa iliaca destra, si differenzia da quest'ultimo per un'ulteriore variante, in particolare a sinistra, dove la compressione venosa avviene tra la biforcazione iliaca sinistra e il piano vertebrale. Tale quadro compressivo estrinseco bilaterale differisce dalle più tipiche forme di presentazione della sindrome di Cockett, ed al momento non trova precedenti riscontri in Letteratura.

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La formazione del flebologo in Svizzera

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In Switzerland, the FMH is the medical association that brings together all the Cantonal Medical Associations and is the certifying institution. In particular, the ISFM section deals with professional development and continuous updating. The ISFM awards specialization diplomas, in-depth training diplomas and complementary training diplomas, which are awarded on the basis of acquired experience. The MedReg is the Confederal register of medical professions and collects all the data and certifications of each doctor operating in Swiss territory. The phlebologist diploma is awarded by the ISFM through the complementary training certificate in phlebology, issued to all vascular surgeons, all angiologists and all dermatologists. For all other specialists, a well-regulated 6-month training period and a final written and oral exam are required. A three-year recertification is required. However, for surgical activity on the saphenous veins, a specialization in Surgery, Vascular or Cardiac Surgery is always necessary. To perform thermoablative treatments of the saphenous veins, a specific certificate of competence awarded by the ISFM on the basis of the specialization qualifications held, after a possible course and a certificate of competence in vascular sonography, is essential. It is also necessary to demonstrate an assisted operational activity varying between 10 and 50 cases. In general, for venous diagnostic activity using ecocolordoppler, a certification of competence issued by the Swiss society of medical ultrasonology is essential with the demonstrable execution of 500 examinations and after a theoretical and practical exam. Those who do not have the appropriate certifications for the various phlebological procedures cannot obtain reimbursements from health insurance companies provided for in the TARMED price list. The certifications of competence are aimed at checking correct

training and correct continuous updating, constituting a guarantee of quality for patients.

Trattamenti delle vene perforanti a confronto: radiofrequenza, laser, colla e scleroterapia

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Scopo: Inquadramento clinico su quando e quali vene perforanti trattare e, in tale contesto, valutare i trattamenti possibili: ablazione mediante ago rigido a radiofrequenze, ablazione mediante laser peri-endovascolare, trattamento mediante cianoacrilato e mediante scleroterapia. Analizzare nel dettaglio step by step tutte le metodiche descrivendone i vantaggi, i possibili effetti collaterali e confrontandone l'efficacia e l'outcome. Materiali e metodi: In un periodo di 24 mesi sono stati trattati 49 pazienti con ago rigido a RF, 49 pazienti con laser peri-endovascolare, 40 mediante scleroterapia e 35 mediante cianoacrilato. L'efficacia del trattamento è stabilita mediante valutazione clinica ed ecografica nel corso del follow-up a 1, 3 ,6 mesi e 1 anno dopo l'intervento. Risultati: Le procedure si sono mostrate fattibili e sicure nella totalità dei casi, l'efficacia delle varie metodiche è risultata pressocchè sovrapponibile con un tasso di occlusione completa del 83-94% al follow-up dopo 1 anno dall'intervento. Tra i vantaggi delle varie metodiche si segnalano: scleroterapia: tecnica percutanea senza incisioni, veloce ed economica con risultati estetici ottimali; cianoacrilato: tecnica percutanea senza incisione, veloce e facile da eseguire; laser peri-endovascolare: rapido, sicuro, senza cicatrici sulla pelle; radiofrequenze: rapida, ripetibile e basso tasso di complicanze. Conclusioni: I risultati hanno mostrato una riduzione del numero di varici recidivanti e di arti inferiori affetti da ulcera, disturbi della pigmentazione cutanea, eczema e stasi, con un outcome valido. Tutti i trattamenti descritti si sono dimostrati validi, sicuri ed efficaci, pertanto è possibile, a seguito di un accurato studio clinico ed emodinamico scegliere e personalizzare il trattamento per ciascun paziente in modo tale da ottenere il miglior risultato e la migliore compliance alla procedura terapeutica scelta.

Verifica posizione punta catetere TIP location

L. Della Capanna

La corretta localizzazione della punta del catetere venoso centrale (CVC), incluso il PICC, rappresenta un elemento cruciale per garantire la sicurezza del paziente, l'efficacia delle terapie endovenose e la prevenzione di complicanze gravi, come trombosi, aritmie e malposizionamenti. Nel contesto della flebologia e della gestione avanzata dei dispositivi venosi, la verifica della posizione della punta è una fase fondamentale, da effettuare con metodo e precisione. Questa presentazione ha l'obiettivo di fornire una panoramica formativa e aggiornata sulle principali tecniche di verifica della punta, con particolare attenzione all'uso del tracciato ECG intracavitario, alla radiografia del torace, all'impiego dell'ecografia e alla lettura dei reperti anatomici radiologici. Attraverso casi clinici, esempi pratici e riferimenti alle linee guida internazionali (GAVeCeLT, INS), verranno messe in evidenza le modalità più efficaci per garantire un posizionamento ottimale del catetere, migliorando così la sicurezza e l'appropriatezza della gestione vascolare. L'obiettivo finale è promuovere una cultura della precisione nella pratica clinica quotidiana, con particolare attenzione alla prevenzione delle complicanze legate al malposizionamento.

Surgical revision of the saphenofemoral junction for recurrent varicose veins: a retrospective analysis and implications for future procedural strategies

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Introduction: Recurrent varicose veins involving the saphenofemoral junction, either due to neoangiogenesis or the presence of a long remnant saphenous stump, may require different therapeutic approaches. These are influenced not only by the morphofunctional characteristics of the recurrence but also by the specialist background of the treating physician. Accordingly, the intervention may be surgical (revision of the saphenofemoral junction) or minimally invasive (ultrasoundguided foam sclerotherapy). Materials and Methods: The aim of this study was to evaluate whether the surgical approach routinely adopted in our practice represents the most appropriate procedural strategy to prevent further locoregional recurrences. Following the framework of the NeoVAReS study (Neo Varices After Revision Surgery) conducted by the Lombardy Section of the Italian Society of Phlebology (SIF), we retrospectively assessed a cohort of patients who underwent surgical revision of the saphenofemoral junction. Long-term follow-up (ranging from 1 to 15 years postoperatively) was conducted using duplex ultrasonography to detect any signs of local recurrence (i.e., re-neocrosse formation). Among 168 surgical revisions performed over a 15-year period, 57 patients (34%) were evaluated with duplex ultrasound. The distribution of follow-up intervals was as follows: 10–15 years in 35% of cases, 3–10 years in 56%, and 1–2 years in 9%. The surgical technique employed adheres to the principles described by Li concerning access, dissection, and control of the neocrosse. However, we implemented a per-

sonalized modification based on our experience with junctional thrombosis: resection of the neocrosse at the femoral plane, following tangential clamping of the common femoral vein using an atraumatic Cooley-type spoon clamp. Closure was performed using a double continuous suture with 6-0 polypropylene: the deep layer consisted of horizontal mattress sutures flush with the linea alba, while the superficial layer was an inverting running suture, effectively burying the neocrosse intimal remnant to minimize the risk of neoangiogenic re-recurrence. Results: Duplex ultrasound findings revealed that 3 patients (5.3%) developed a new neoangiogenic recurrence between 8 and 12 years postoperatively. However, these recurrences were not hemodynamically significant and were deemed suitable for conservative or sclerotherapeutic management. In one patient (1.7%), a re-neocrosse was identified three years post-surgery, potentially warranting further surgical revision. Conclusions: These preliminary long-term follow-up results, though limited by the single-center and retrospective nature of the study, suggest that the surgical technique employed is associated with a low rate of clinically significant recurrences. Nonetheless, the increasing availability and proven efficacy of endovascular treatments such as endovenous laser ablation and ultrasound-guided foam sclerotherapy, both of which are now routinely used in our practice, are likely to influence future therapeutic strategies. Comparative longitudinal analyses of open versus endovascular techniques will be essential to guide evidence-based decision-making in the management of recurrent varicose veins

Ruolo del filtro cavale nella gestione del tromboembolismo venoso in paziente oncologico candidato a chirurgia maggiore: case report

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Introduzione: Il filtro cavale (FC) è un dispositivo che interrompe parzialmente il flusso nella vena cava inferiore (VCI) per prevenire l'embolia polmonare in seguito a trombosi venosa profonda (TVP) [1]. Le linee guida [2], [3], [4] ne raccomandano il posizionamento nei pazienti con TVP e controindicazioni all'anticoagulazione, complicanze o fallimento della terapia anticoagulante. Nel presente case report si espone il possibile utilizzo perioperatorio del FC nei pazienti oncologici affetti da TVP-TEP recente. Case report: Si presenta il caso di una paziente di 63 anni con diagnosi di TVP della grande safena sinistra e interessamento della crosse safeno-femorale. Contestuale riscontro di anemizzazione severa indagata endoscopicamente con reperto di adenocarcinoma del cieco. La TC di stadiazione, negativa per secondarismi, ha evidenziato una TEP focale subsegmentaria al lobo inferiore destro. La paziente è stata sottoposta ad emotrasfusione e terapia anticoagulante con eparina a basso peso molecolare (EBPM). Alla valutazione multidisciplinare, in considerazione del quadro di anemizzazione da neoplasia colica e TVP-TEP, posta indicazione ad emicolectomia destra previo posizionamento di FC per controllo di ulteriori fenomeni embolici. Materiali e metodi Quattro giorni prima dell'intervento è stato posizionato tramite accesso ecoguidato in vena giugulare comune destra un filtro Bard Denali (8.4F) in VCI sottorenale. Successiva emicolectomia destra laparoscopica con confezionamento di anastomosi ileocolica. Avviata profilassi postoperatoria con EBPM 100UI/Kg/die, incrementata a dosaggio anticoagulante non appena escluse complicanze emorragiche. La

paziente è stata dimessa in X giornata post operatoria in buone condizioni generali. Rimozione ambulatoriale del FC ad un mese dalla dimissione e sostituzione della terapia eparinica con Rivaroxaban. Conclusioni: Il posizionamento preoperatorio di un FC rimovibile si è dimostrato una valida e sicura misura preventiva del tromboembolismo venoso in caso di rischio combinato emorragico/trombotico, sebbene la sua costo-efficacia e applicabilità su larga scala rimanga controversa. In tal senso sono auspicabili nuovi studi, in particolare RCT.

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Trattamento di tvp e tep massiva con eparina non frazionata e protocollo di trombolisi con alteplase condizionante emoperitoneo e peggioramento di lacerazione epatica metatraumatica: case report

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Scopo del lavoro: La trombolisi sistemica rappresenta il trattamento di scelta nei pazienti con embolia polmonare (TEP) ad alto rischio [1] e nei casi di trombosi venosa acuta, garantendo una rapida risoluzione dei sintomi e prevenendo la sindrome post-flebitica [2]. Tuttavia, il rischio di sanguinamento associato ai trombolitici, rispetto alla sola terapia anticoagulante, impone un'attenta valutazione del rapporto rischio beneficio [3] [4]. Si presenta un caso clinico che evidenzia le possibili complicanze emorragiche della trombolisi sistemica. Materiali e metodi: Un paziente di 36 anni, con anamnesi muta, si è presentato in Pronto Soccorso con dispnea e dolore toracico dopo un volo intercontinentale. L'evoluzione clinica ha portato a un arresto cardiocircolatorio, trattato con rianimazione cardiopolmonare avanzata (RCP, LUCAS, low-flow e adrenalina). La TC totalbody ha evidenziato una TEP massiva con trombo a cavaliere, secondaria a una TVP della femorale destra. È stata avviata terapia con eparina non frazionata e trombolisi sistemica con Alteplase (10 mg in bolo seguiti da 90 mg in due ore). Risultati: Durante la notte, il paziente ha sviluppato instabilità emodinamica (PA 90/50 mmHg, FC 112 bpm) da shock emorragico (Hb 7,1 g/dL, Lattati 4 mmol/L). La TC addome con mdc ha evidenziato un esteso emoperitoneo secondario a lacerazione della capsula epatica (S2) con emorragia venosa. È stato trattato con packing addominale, Open Abdomen, revisione a 48 ore. Alla TC addome successiva, assenza di sanguinamenti attivi e riassorbimento dell'emoperitoneo.

Il decorso postoperatorio è stato caratterizzato da normalizzazione di tutte le funzioni d'organo. Permasto solo ipovisus, non correlabile ai normali esiti di sofferenza ipossico ischemica. Conclusioni: Questo caso evidenzia il rischio emorragico della trombolisi sistemica e sottolinea l'importanza di un attento monitoraggio clinico. Inoltre, solleva interrogativi sulle possibili cause predisponenti di TVP in soggetti giovani senza fattori di rischio noti [5] [6], suggerendo la necessità di un approfondimento diagnostico.

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Nutritional strategies in chronic wound healing: the role of antioxidants, probiotics, and oral supplementation

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Chronic wounds represent one of the major clinical challenges in healthcare, significantly impacting patients' quality of life and increasing healthcare costs. In particular, lower-limb ulcers (LLUs) are characterized by delayed healing and a high incidence among elderly individuals and patients with chronic conditions such as diabetes. Recent studies suggest that nutritional supplementation with specific nutrients, antioxidant substances, and probiotics may represent a promising complementary strategy to promote tissue repair processes and modulate inflammation. A systematic review by De Souza et al. (2024) evaluated the effects of orally administered antioxidants in patients with LLUs. The study included 14 randomized controlled trials and demonstrated that supplements containing omega-3 fatty acids, magnesium, zinc, vitamins A, C, D, and E, as well as resveratrol and probiotics, promoted ulcer size reduction while also improving metabolic, inflammatory, and oxidative stress parameters. These nutrients act by attenuating the production of reactive oxygen species (ROS), modulating proinflammatory cytokines, and supporting the physiological mechanisms of tissue regeneration. The efficacy was greater in patients with initial nutritional deficiencies, confirming the clinical relevance of nutritional status assessment. A review conducted by Espírito Santo et al. (2024) examined the impact of oral supplement composition on the healing process of chronic wounds, including pressure injuries, diabetic ulcers, and venous ulcers. The results from nine randomized clinical trials suggest that hypercaloric and hyperproteic formulas enriched with zinc and vitamins A, C, and E show positive outcomes in reducing wound area and accelerating healing rates, although clinical response may vary depending on treatment

adherence and individual clinical conditions. Specifically, supplements containing arginine, glutamine, and HMB (β-hydroxy-β-methylbutyrate) did not demonstrate superior benefits compared to simple protein formulas. An additional emerging area of interest in tissue regeneration is the use of probiotics, as highlighted by the review of Bădăluță et al. (2024). Probiotics, through modulation of the cutaneous and intestinal microbiota, exert immunomodulatory, antibacterial, and anti-inflammatory effects. The most studied strains, including Lactobacillus plantarum, L. casei, L. rhamnosus, Bifidobacterium bifidum, and L. reuteri, have demonstrated the ability to reduce pathogenic colonization, inhibit biofilm formation, and stimulate the production of endogenous antimicrobial peptides. These effects translate into local inflammation reduction, greater collagen deposition, and accelerated re-epithelialization. Clinical and in vivo studies have shown significant benefits in patients with surgical wounds, pressure ulcers, burn injuries, and diabetic foot ulcers. Efficacy has been observed with both topical and oral formulations, with a generally favorable safety profile. Overall, nutritional supplementation with antioxidants and probiotics appears to be a promising therapeutic strategy for the management of chronic wounds. However, its efficacy depends on the targeted selection of nutrients based on the underlying pathology, the patient's nutritional status, and the mode of administration. Current evidence supports the adoption of hypercaloric and hyperproteic formulas enriched with antioxidant micronutrients and the use of specific probiotics, particularly in patients with diabetic or pressure ulcers. Future research should focus on identifying optimal dosages, ideal treatment durations, and on personalizing nutritional interventions by integrating clinical protocols with analysis of the cutaneous and intestinal microbiome.

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Safety and efficacy of the indigo® aspiration system for percutaneous mechanical thrombectomy in acute lower extremity deep vein thrombosis

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Purpose: To evaluate the safety and efficacy of the Indigo® Aspiration System for percutaneous mechanical thrombectomy in patients with acute lower extremity deep vein thrombosis (DVT). Materials and Methods: This is a retrospective, single-center study including 35 patients with unilateral iliac and/or common femoral vein occlusion with symptoms lasting ≤14 days. All patients underwent mechanical thrombectomy using the Indigo® Aspiration System, initially with CAT8 in the first 18 patients, followed by the Lightning 12 system in the subsequent cases. Patients were followed for up to one year. The primary safety endpoint was a composite of major adverse events (MAE) within 48 hours post-procedure, including device-related death, major bleeding, new symptomatic pulmonary embolism, re-thrombosis of the target venous segment, and serious device-related events. The primary efficacy endpoint was the change in Marder Score, defined as complete or near-complete thrombus resolution (≥75% reduction) in the target venous segment from pre- to post-procedure. The Marder Score ranges from 0 to 24, with higher scores indicating more severe thrombus burden. Results: At one-year follow-up, more than 90% of patients achieved a ≥75% reduction in the Marder score post-procedure. More than 75% of patients underwent stenting due to residual stenosis. The incidence of major adverse events within 48 hours post-procedure was <5%, indicating a favorable safety profile. Conclusion: The Indigo® Aspiration System appears to be a safe and effective treatment for lower

extremity DVT, demonstrating a high rate of thrombus clearance and a low incidence of major complications. Longer follow-up and larger studies are needed to validate these findings.

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Sindrome da congestione pelvica

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Introduction: Pelvic Congestion Syndrome (PCS) is a chronic clinical condition, often underdiagnosed, that predominantly affects women of reproductive age, with an estimated prevalence of up to 15% between the ages of 20 and 50. First described by Taylor in 1949, PCS is now recognized as one of the causes of chronic pelvic pain (CPP), associated with pelvic varices and venous reflux. The condition is of particular interest to vascular surgeons, as it may represent an etiopathogenic mechanism not only for pelvic pain but also for atypical and recurrent varicose veins of the lower limbs. Pathophysiology: The pathophysiology of PCS is complex and multifactorial. It includes valvular incompetence of the ovarian and/or pelvic veins, vascular compressions (e.g., Nutcracker syndrome, May- Thurner syndrome), and pathological venous dilations. Multiple pregnancies are a known predisposing factor due to increased blood volume, venous stasis, and hormonal changes that can compromise valvular integrity. Beckett et al. (2018) precisely documented the anatomical anomalies of the pelvic venous system, classifying the most common variants and illustrating how these influence the success of endovascular techniques. Accurate evaluation of pelvic anatomy and venous reflux is therefore essential for appropriate therapeutic selection. Symptoms: Chronic pelvic pain is the hallmark symptom. It typically presents as:

- Worsening in an upright position
- Improvement when supine
- Dyspareunia
- Pelvic heaviness
- Vulvar, perineal, gluteal, or lower limb varices (in the absence of saphenous reflux)

In addition, urinary symptoms (frequency, urgency), gastrointestinal symptoms (abdominal pain, bloating), or neurological symptoms (pudendal neuralgia) may coexist, making the differential diagnosis particularly complex.
Diagnosis: Diagnosis relies on careful clinical and instrumental evaluation. As the symptoms are nonspecific, it is essential to exclude gynecological, urological, gastrointestinal, musculoskeletal, and psychiatric conditions. In approximately 55–61% of cases, the cause of pelvic pain remains unknown even after imaging and laparoscopy.
The most relevant diagnostic tests include:

- Transabdominal and transvaginal Dopplerultrasound
- Contrast-enhanced MRI
- Selective pelvic venography (gold standard)
- Multidetector CT (to exclude compressive syndromes)

According to Basile et al. (2021), a multimodal imaging approach allows for a better understanding of pelvic venous anatomy and the presence of reflux, with direct therapeutic implications.
Classification: Framing PCS using the SVP (Symptoms, Varices, Pathophysiology) classification system helps rationalize heterogeneous clinical presentations by linking symptoms with the type of varices and the underlying pathophysiological pattern, thus facilitating treatment planning.
Treatment:
Management of PCS includes conservative, pharmacological, and interventional options.
Conservative treatment:

- NSAIDs, combined oral contraceptives
- Lifestyle modifications (weight reduction, physical activity)

Interventional treatment:

- Endovascular embolization: considered the first-line treatment for symptomatic patients with radiological confirmation. Ovarian and/or
- iliac veins are occluded using coils, glue, or sclerosing agents.
- Laparoscopic surgery: reserved for refractory cases or those with contraindications to endovascular procedures.

- Direct sclerotherapy: an option for vulvar/perineal varices.

Gloviczki et al. (2011), in the SVS/AVF guidelines, recommend a personalized and multidisciplinary approach. Proper patient selection is critical to ensure satisfactory outcomes. Experience reported in clinical practice shows that with a targeted diagnostic and therapeutic approach, significant symptom remission can be achieved. Considerations for the Vascular Surgeon: •PCS is a little-known but potentially treatable venous disorder. The vascular surgeon can—and should—play a role in its diagnosis and management, especially in cases where varicose veins of the lower limbs are not explained by saphenous reflux but rather originate from pelvic escape points. Conclusions: Pelvic Congestion Syndrome is an increasingly relevant clinical condition that requires a multidisciplinary evaluation, dedicated imaging, and a personalized approach. Embolization is the treatment of choice in confirmed cases, with evidence of symptom improvement and enhanced quality of life. It is essential to raise awareness among clinicians, especially vascular surgeons, for more effective and timely management

Comparative effectiveness of compression therapy and surgery in the management of venous leg ulcers in obese patients: a two-center study

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Background: Venous leg ulcers (VLUs) represent one of the most frequent chronic wounds worldwide and are a major cause of morbidity and impaired quality of life, especially in individuals with obesity. Obesity is a recognized risk factor for the development and persistence of venous ulcers due to several pathophysiological mechanisms: increased intra-abdominal pressure, decreased calf muscle pump efficiency, and altered inflammatory and hemodynamic responses that impair venous return and microcirculation. The management of VLUs in obese patients is further complicated by slower healing rates, poor tolerance to compression, and higher recurrence. Standard care often involves conservative approaches, primarily compression therapy, which remains the cornerstone of VLU treatment. However, not all patients respond adequately to conservative measures, and surgical correction of venous insufficiency may offer more rapid and durable healing in selected cases. Additionally, newer minimally invasive techniques such as foam sclerotherapy have been shown to be effective, but their use is limited by availability, cost, and institutional experience. To address the gap in evidence regarding the comparative efficacy of these treatments in obese populations, we conducted a prospective, two-center observational study to evaluate the outcomes of compression therapy versus surgery, and to discuss the potential role of sclerotherapy as a future therapeutic option. Methods: From January 2023 to March

2025, 64 obese patients (BMI ≥ 30) with CEAP C6 venous leg ulcers were prospectively recruited at Ospedali Riuniti Anzio-Nettuno and Ospedale Dono Svizzero di Formia. Patients were assigned to two treatment groups:

- Group A (n = 33): Received conservative treatment with multilayer compression therapy (short-stretch bandages), along with hydrocolloid or hydrofiber dressings, and standard wound care protocols.
- Group B (n = 31): Underwent surgical treatment, including high ligation and stripping or ambulatory phlebectomy, followed by compression therapy and standard wound care. Selection for surgery was based on Doppler ultrasound findings and general health status.

The study endpoints included:

1. Primary outcomes – complete wound healing at 12 weeks, healing time, and ulcer recurrence at 6 months.
2. Secondary outcomes – pain reduction (VAS scale), quality of life improvement (VEINES-QoL/Sym), and incidence of complications.

Results:

- Group A (Compression Therapy):
- Mean healing time: 12.2 weeks
- 48% complete healing at 12 weeks
- Recurrence rate at 6 months: 32%
- Moderate pain reduction (mean VAS from 6.1 to 3.9)
- No adverse events recorded
- Group B (Surgical Treatment):
- Mean healing time: 9.1 weeks
- 68% complete healing at 12 weeks
- Recurrence rate at 6 months: 16%
- Greater pain reduction (mean VAS from 6.3 to 2.1; $p < 0.05$)- Minor postoperative complications (hematoma, edema) in 4 cases

Conclusions:

The comparative analysis highlights that surgical correction of venous insufficiency, when feasible, offers superior outcomes in terms of faster healing, lower recurrence, and greater pain relief, compared to compression therapy alone in obese patients with chronic VLUs. Nevertheless, com-

pression remains a fundamental, widely accessible first-line treatment. A third option, foam sclerotherapy, is recognized in international guidelines as an effective and less invasive alternative to surgery. Although currently not available at our centers due to technical and financial limitations, we consider its future introduction (Group C) essential to expand treatment possibilities and improve access to advanced care for all patients.

Antibiotic therapy on patients affected by Periprosthetic periaortitis and other Idiopathic vasculitis, unfits for surgical Treatment: a conservative approach.

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Aims/hypothesis Chronic idiopathic vasculitis are conditions that can arise following the surgical placement of stent/graft. Unlike infective or rheumatoid vascular inflammations, periprosthetic vasculitis is evaluated by Magic score and requires a rapid diagnosis and an interdisciplinary approach. If patient is unfit for surgical procedures, life-long antibiotic therapy is prescribed.The utility of antibiotic therapy is evaluated on patients admitted to internal medicine department. Starting by an empiric approach, our study goal is to prove that targeted antibiotics are the best choice to menage and heal these conditions. However we hypothesized that also empiric antibiotic alone can cure patients' diseases, improving their health. Methods A number of 10 patients with periprosthetic periaortitis and other post surgery vasculitis were evaluated at internal medicine department of AORN "A. Cardarelli" in Naples during years 2024-2025. In our survey, we considered an age span from 65 to 90 years, both males and females: all of patients are geriatrics. At the ammission, they were valuated with phlogosis indicators: PCR, PCT, total and specific wbc (white blood cells). Emocultures were perfomed with and without fever. Following vascular surgeon's point of view, instrumental exams as PET and TC were performed. Apparently all of them presented a periprosthetic inflammatory process. Additionally MAGIC score was used to diagnose certainly periprosthetic inflammation. Because of age, frailty, comorbidities, multipharmacological therapy and others, analised cases were typified by impossibility to get invasive treat-

ment, as sostitution of surgical devices. For this reason all patients were treated with empiric antibiotic therapy during their hospitalization: first of all we choose PIPERACILLIN/TAZOBACTAM 4.5 g x3/die with TEICOPLANIN 400 mg x3/die, monitoring renal function. In four of these patients we changed PIPERACILLIN/ TAZOBACTAM with MEROPENEM 1 g x3/die because of fever pitches. In a second moment, after emocolture results, infectivologist prescribed targeted antibiotics as DAPTOMYCIN 500 mg/die, FOSFOMYCIN 4gx3/die or AMOXICILLIN/CLAVULANIC ACID 1gx3/die and added antifungal for prevention as FLUCONAZOLE 200 mgx1/die. After three/four weeks of antibiotic treatment, once the inflammatory markers and the general condition improved, the patient was discharged with indication of life-long antibiotic therapy. Results Starting from ten patients affected by periprosthetic periaortitis and other idiopathic vasculitis, actually two of them had vascular disease starting by sistemic infection (one of them with endocarditis, too), instead other eight had an inflammatory vascular condition related to placement of stents or surgical grafts. After instrumental exams and the application of MAGIC score, selected eight were treated with antibiotic therapy, empirical at the beginning, successively targeted with infectivologist prescription.Thorugh the group of eight, six of them started target theraphy, remaining two continued empirical one. All of them were discharged at home in good health, keeping on antibiotic therapy. Considering vascular surgeo's and infectivologist's opinion and MAGIC score, patients had indication of life-long antibiotic therapy. Conclusions/interpretation Periprosthetic periaortitis and other idiopathic vasculitis can occur following the surgical placement of stent/graft. In the majority of cases, those conditions require surgery to remove old graft and install the new one. However for not all patients we can take dangerous decision like this, because of their risk factors, as age, comorbidities, pharmacological therapy, frailty. High risk patients evaluated in our department are treated with a conservative approach through antibiotic therapy, which is a valid alternative to invasive surgical procedures. Starting by an empiric approach, those patients were later treated with a targeted antibiotic therapy, that gave best results on diseases. According to the data, antibiotic

therapy demonstrated a promising ability to replace surgical approach with a conservative one for a variety of periprosthetic pathologies. Considering antibiotic therapy in clinical assessments, it could potentially help identify high-risk individuals who may benefit from less intensive therapies, too. Ultimately, we proved that in all analised patients with surgical risk targeted antibiotic therapy improved periprosthetic vascular inflammations; moreover we demostrated that also empirical antibiotic therapy at home can heal those conditions.

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Tecnica S.F.A.L.T. Per il trattamento di safena fuori indicazione laser

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Utilizzo tecnica S.F.A.L.T. in pazienti off label nel trattamento ablativo laser della safena. La tecnica utilizzata è la SFALT (SCLERO FOAM ASSISTED LASER THERAPY). Tale tecnica consiste in un trattamento ibrido laser-scleromousse della safena. OBIETTIVO Scopo del lavoro è quello di valutare l'esito di tale tecnica nei casi fuori indicazione per il calibro della safena. Questa tecnica prevede il trattamento di calibri superiori a quelli consentiti dalla metodica laser al fine di ottenere una più sicura ablazione del vaso trattato. METODO L'accesso percutaneo ed il posizionamento della fibra laser è quello standard. Il laser viene portato ad una distanza di 3 cm dalla giunzione safeno-femorale e mantenendo la fibra bloccata vengono iniettati attraverso lo stesso introduttore 5 cc di schiuma. Successivamente si procede alla retrazione della fibra nella maniera classica seguendo la regola del x 20 per cm nella parte che presenta maggior calibro e del x 10 nei rimanenti segmenti. La metodica, standard per tutti i pazienti è stata condotta previa anestesia plessica del nervo femorale e successiva tumescenza lungo il decorso del vaso con soluzione fredda di Klein. Nel periodo dal gennaio 2024 a dicembre 2024, sono stati trattati n 25 pazienti con tale tecnica. RISULTATI I pazienti sono stati successivamente controllati mediante esame ecocolor doppler dopo 3, 6 mesi ed 1 anno. Al controllo annuale, solo un paziente presentava una ricanalizzazione della safena anche se con calibro ridotto rispetto a quello di partenza ma con reflusso di grado medio che ne aveva causato il peggioramento di una precedente discromia alla caviglia con inizio di una piccola lesione ulcerativa. Tale paziente era stato sottoposto al trattamento senza sospensione di anticoagulante orale tipo NAO, assunto per F.A. cronica e forse questo

ne aveva inficiato l'esito. A distanza di tre mesi dall'ultimo controllo veniva trattato chirurgicamente, previa adeguata sospensione della terapia anticoagulante. CONCLUSIONI La tecnica S.F.A.L.T. ha dimostrato un buon esito e può essere ripetuta in tutta sicurezza nei pazienti che presentino una adeguata indicazione come sopra indicato. Il razionale sta nella possibilità di trattamento di calibri safenici superiori a 1,2 cm riducendo la potenza di emissione della fibra laser

Advanced multimaterial bandaging unrolled

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INTRODUCTION: Lymphedema, in both its primary and secondary forms, is primarily treated using the gold standard CDT (Complex Decongestive Therapy), of which the multicomponent bandage (MCB) is the main therapeutic tool. MCB is unanimously considered the gold standard by international consensus and literature, although currently, no standardized methods for its application exist that are scientifically comparable. Results are undoubtedly influenced by both intra- and inter-operative variables, such as proper diagnosis, a well-thought-out treatment strategy, and mastery in the art of applying MCB. In chronic edema, a plateau phase is often reached during standard therapy, during which volume reduction stabilizes. This is due to progressive alteration of the extracellular matrix (ECM), caused by water polymerization with hyaluronic acid and cell proliferation mediated by mechanotransduction (triggered by excessive tensile forces resulting from lymphatic stasis). This leads to the formation of an organized tissue often, and erroneously, referred to as fibrosis. Given this condition, the purpose of MCB should be to depolymerize the water-collagen (hyaluronic acid) complex within the ECM and to trigger anoikis, thereby limiting mechanotransduction signals and inducing apoptosis of the cells within this tissue. The underlying principle is that the bandages, when applied, form a shell that resists the centrifugal elongation of the polyurethanes used. These materials behave like springs, expanding unidirectionally and perpendicularly to the skin surface. Thus, the mobilizable elements of the edema are pushed toward anatomical regions with lower pressure.
MATERIALS AND METHODS:
Differentiated treatment of structured chronic lymphedema was performed by modifying the materials used in bandage construction, the application

method, timing, and other parameters that will be discussed during the presentation. Patients who had reached a stabilization phase and were no longer responsive to classical CDT—but still had a potential reduction margin >5–8 cm—were recruited and treated for five consecutive days. The treatment was preceded by tissue ultrasound, which was repeated after the testing phase.

Detailed data collection included:

- Before/after photos (with background reference grid),
- Multi-point circumference measurement**,
- Before/after tissue ultrasounds on a defined area of the limb,
- Satisfaction survey.

RESULTS:

In all patients treated with the new bandaging method, we observed:

- A volume reduction greater than that recorded during treatments/screenings conducted in the previous six months,
- Ultrasound-confirmed reduction of free fluid in the superficial subcutaneous fascia,
- A minimal and not always present reduction in the thickness of the supra-fascial space,
- Greater comfort, improved guided and free mobility, and better tolerance and satisfaction with the treatment.

CONCLUSIONS:

The differentiated treatment of structured chronic lymphedema that we propose significantly changes the materials used in the bandage construction, the methods of application, and the duration. The goal is to optimize results following the plateau phase and in the presence of chronically increased tissue consistency in long-standing lymphedema, and to offer a more standardized and reproducible EBM (evidence-based medicine) methodology. We aim to identify a simple instrumental method to monitor and demonstrate the effectiveness of the bandage by altering the materials used. At present, while there is a clear qualitative improvement in subcutaneous tissue structure, volume reduction, and palpable tissue consist-

ency, as well as increased patient satisfaction and tolerance, studies and evaluations are still ongoing to determine how best to intervene and which parameters to adjust in order to achieve a measurable reduction in fibrotic tissue thickness. Data collection continues, along with the expansion of the treated patient sample, to obtain sharable and validated results.

Lymphatic Ulcers

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INTRODUCTION: Lymphatic ulcers (LU) are common complications encountered in clinical practice, although their management is less extensively covered in the scientific literature compared to other types of ulcers. Their occurrence is closely associated with lymphatic system insufficiency, which leads to the interstitial accumulation of protein-rich fluid known as lymphedema. This chronic lymphatic stasis may result in the development of ulcers in patients already suffering from lymphedema (True Lymphatic Ulcer) or may complicate preexisting ulcers (Pseudo Lymphatic Ulcer). Therefore, the treatment of LU requires a multimodal approach that does not merely address the ulcerative lesion itself, but necessarily and primarily includes the identification and management of the underlying lymphatic stasis. MATERIALS AND METHODS: Given the high risk of infection in lymphedema, it is essential to act decisively on the lesion through disinfection and curettage (wound bed preparation) to prevent and manage bacterial and fungal contamination. The choice of dressings (e.g., Cadexomer Iodine, DACC, PHMB) also aims to reduce bacterial proliferation. Measures and therapies are also implemented to improve lymphatic drainage: limb elevation, mechanical lymph drainage (IPC), and compression therapy, which is the gold standard in managing lymphostasis in patients with chronic ulcers. Preference is given to short-stretch, multilayer, and multicomponent elastic compression bandages. These materials provide a high Static Stiffness Index (SSI), ensuring low resting pressures and high working pressures during movement, thereby improving patient compliance and treatment efficacy. One example is the LyMB™ system (Lymphatic Multicomponent/Multilayer Bandage), which involves the application of a soft under-bandage to protect the skin and

create micro-massage, followed by a medium-elasticity bandage with zinc oxide, cotton wool to stabilize volume and respect Laplace's law, and finally a shortstretch cohesive bandage that forms the structural core and provides working pressure. Bandaging should be performed by experienced personnel, preferably with progressive pressure increasing proximally, where muscle activity is greater—unlike regressive bandages. Despite the multiple layers, the bandage can be kept thin to avoid impeding mobility and muscle activity. Furthermore, the use of blue light photobiomodulation also appears to stimulate skin regrowth and help control bacterial/fungal colonization. After ulcer healing, the goal is to prevent recurrence and maintain the healed state. Consistent use of appropriate highstiffness medical compression stockings is essential. RESULTS: The multimodal approach applied in clinical practice to patients with lymphatic ulcers yielded the following results: the LyMB™ bandage applied to our patients achieved a comfort level of 99.8%, with durability of up to 7 days after application; the use of blue light on the ulcers showed improved outcomes both in terms of healing time and reduction of local infectious recurrences (less than 5% of treated patients required a repeat course of antibiotic therapy during treatment). CONCLUSIONS: Failing to consider the role of the lymphatic system in managing chronic ulcers may lead to delayed healing and increased complications. Proper treatment that includes addressing lymphatic stasis improves healing outcomes. The effectiveness of bandage-based therapy derives from the interaction between knowledge of the materials used in each layer (hysteresis and textile properties), a specific bandaging technique with a high Static Stiffness Index (SSI), and consideration of patient needs.

Preventive health and lifestyle behaviors in transgender individuals

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Transgender individuals are people whose gender identity does not align with the sex assigned at birth. This population experiences significant health disparities, rooted in structural barriers to healthcare access, socioeconomic opportunities, and social inclusion. These challenges are associated with poorer mental health outcomes, including higher rates of anxiety, depression, and suicidal ideation, as well as an increased burden of physical illness—spanning both infectious and non-communicable diseases—among which cardiovascular conditions warrant particular attention. Epidemiological data indicate an approximately 40% higher cardiovascular risk in transgender individuals compared to cisgender peers matched by sex assigned at birth. Of particular relevance to vascular medicine, transgender women exhibit an increased risk of venous throm-

boembolism, especially in the context of longterm estrogen therapy, with oral administration associated with the highest risk. In this context, modifiable lifestyle behaviors are critical determinants of cardiometabolic and vascular health. Recent data regarding the Italian context reveal substantial disparities in health-related behaviors among transgender individuals. Physical inactivity is widespread, particularly among younger age groups, with reported prevalence rates significantly exceeding those observed in the general population. Dietary habits are frequently suboptimal, with reduced consumption of fruits, vegetables, and fish. Overweight and obesity appear more prevalent in certain subgroups, while others show a higher incidence of underweight. Tobacco use is markedly more common among transgender individuals, with significant variation across gender identities, and binge drinking is also reported at higher rates. Overall, despite the well-established benefits of physical activity and healthy lifestyle practices for both physical and mental health, engagement in preventive behaviors remains limited, often compounded by insufficient provider training and a lack of culturally competent care pathways. It may be beneficial to combine general preventive measures with care models that take into account the specific health needs of transgender individuals. In this framework, the INFOTRANS website represents a pioneering institutional resource supporting the implementation of such strategies at the national level. It is the first European public platform providing reliable, evidence-based health and legal information on transgender-related issues. Designed for transgender individuals, healthcare professionals, and the general public, INFOTRANS promotes knowledge dissemination, enhances access to services, and fosters culturally competent care across the country. In conclusion, these findings may be of particular interest to healthcare professionals working in phlebology, as they underscore the relevance of integrating gender-diverse perspectives into preventive and clinical strategies

Farmaci flebotropi, quali evidenze?

C. Martelli

La MVC è una malattia cronica, progressiva, ad alta prevalenza, con implicazioni importanti sulla qualità e sull'aspettativa di vita dei pazienti, con enormi costi diretti ed indiretti per la società che per lungo tempo è stata relegata a rango di malattia quasi esclusivamente estetica. Le ultime evidenze scientifiche invece hanno evidenziato come l'eziopatogenesi di tipo infiammatorio e di aumento dello stress ossidativo sistemico porti ad aumento dei rischi a lungo termine, mettendo quindi un focus importante sulla diagnosi precoce ed il trattamento della malattia venosa cronica già dai primissimi stadi. CONCLUSIONI: I farmaci flebotropi, in numerosi studi degli anni, si sono rilevati un ottimo alleato nella prevenzione, nel rallentamento della malattia, nel trattamento dei suoi sintomi e nel coadiuvare il trattamento delle sue complicanze, sono generalmente ben tollerati, con pochissimi eventi avversi e interazioni farmacologiche; dovrebbero essere quindi utilizzati già in stadio CEAP C0s fino allo stadio C6r con dosaggi adeguati e tempi prolungati di almeno 90-180 giorni o più.

L'erisipela degli arti inferiori: terapia compressiva, podologica e farmacologica.

C. Mattaliano

1. Ospedale S. Giuseppe Empoli – USL Toscana Centro

L'erisipela degli arti inferiori è un'infezione della pelle e del sottocutaneo ed è caratterizzata da dolore, calore, edema dell'arto e linfoadenopatia acuta locale associata spesso a malessere e febbre. La causa è un'infezione batterica, di solito da Streptococchi beta-emolitici o S.aureus, che insorge più frequentemente in pazienti con linfedema primitivo o secondario, insufficienza venosa cronica, obesità e pluricomorbidità e in particolare se localmente è presente onicomicosi o traumatismo. La terapia principale dell'erisipela è la terapia antibiotica empirica per almeno 7-10 giorni per via orale o per via parenterale in base alla gravità, associata al trattamento della causa predisponente. La terapia compressiva in acuto per la gestione dell'edema era controindicata, per paura di trasferire batteri nella circolazione sistemica con conseguente setticemia. Le ultime linee guida rivalutano il ruolo della terapia compressiva che, insieme alla terapia antibiotica, può avere un effetto sinergico nel ridurre l'infiammazione locale, migliorare il drenaggio linfatico, ridurre i sintomi locali dovuti all'infezione senza indurre uno stato settico o alterare il microcircolo. In alcuni centri, la terapia compressiva è già utilizzata in acuto con un più rapido miglioramento del quadro, senza comparsa di eventi avversi. Superata la prima fase è importante la figura del podologo che in caso di onicomicosi, interverrà con mezzi incruenti nella bonifica locale mediante curettage ungueale normalizzando la lamina, rimuovendo residui di micosi a livello del letto ungueale e medicando eventuali lesioni sub-ungueali. Le recidive dell'erisipela sono frequenti: circa 45% a tre anni. La profilassi antibiotica può essere utilizzata, ma è stato visto che l'effetto diminuisce progressivamente una volta interrotta e soprattutto ha un alto tasso di insuccesso

in pazienti con linfedema cronico, obesità e pregressi episodi di cellulite che sono quelli a più alto tasso di recidiva. In questi pazienti, anche se in letteratura sono disponibili pochi studi, può essere molto utile una terapia compressiva in cronico come terapia di mantenimento per migliorare il drenaggio linfatico e ridurre gli episodi di recidiva. Ma soprattutto è sempre importante andare a trattare i fattori di rischio predisponenti, tra cui la prevenzione delle micosi e delle lesioni interdigitali e la deambulazione del paziente con un'adeguata gestione podologica.

I principi della terapia compressiva

C. Mattaliano1

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La terapia compressiva consiste nell'applicazione sulla superficie cutanea di una pressione esterna destinata a controbilanciare le pressioni intra-venose patologiche. È un trattamento chiave nella gestione delle malattie flebo-linfatiche ed è l'unica che ha una evidenza di grado IA sulla guarigione delle ulcere. Quando noi applichiamo un bendaggio compressivo esercitiamo una pressione che dipende dalle caratteristiche tessili ed elastomeriche della benda, da quanto questa benda viene tirata (tensione del tessuto), dal numero degli strati che abbiamo confezionato e dalle caratteristiche anatomiche (grandezza e forma) dell'arto sottoposto a bendaggio. L'interazione quantitativa di questi eventi è regolata dalla Legge di Laplace P = Tn/rh, rivisitata da Thomas S., dove la pressione applicata sarà direttamente proporzionale alla tensione del (T) tessuto elastico ed al numero (n) di spire applicate mentre sarà inversamente proporzionale al (r) raggio di curvatura della superficie compressa e all'altezza (h) della benda. Avendo la gamba una forma conica con salienze e depressioni, andrà variata la pressione e il raggio di curvatura in base all'effetto che vogliamo produrre: per mantenere la pressione costante andranno arrotondate le salienze e riempite le depressioni. Da prendere in considerazione c'è anche la durata e l'efficacia del bendaggio che dipende dalla pressione applicata e dall'attività fisica del malato. La trasmissione della pressione inoltre varia sia in condizioni di staticità, in posizione supina o in piedi, che di movimento. Queste diverse pressioni sono state misurate e sono state chiamate "pressione di riposo", "pressione di lavoro" e "pressione standing" e dipendono sia dalla deambulazione che dalla qualità elastica del materiale di bendaggio. La rigidità di un sistema di bendaggio è espressa mediante la stiffness, che esprime la capacità di un bendaggio

di opporsi all'espansione muscolare durante la sua contrazione, dipende dal materiale usato e sarà tanto maggiore quanto minore sarà l'elasticità della benda. L'indice statico di stiffness viene calcolato come differenza tra la pressione ortostatica e la pressione supina: valori >10 sono indice di sistema anelastico, l'unico capace di creare, durante la contrazione muscolare, pressioni emodinamiche in grado di occludere in modo intermittente il sistema venoso e di ricreare un meccanismo simil valvolare, con riduzione del reflusso venoso e dell'ipertensione venosa deambulatoria.

La Terapia Compressiva: il bendaggio

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La Terapia Compressiva rappresenta il principale trattamento delle Flebo - Linfopatie ed esercita la sua azione applicando sulla superficie cutanea una pressione esterna, mediante materiali di diversa natura ed elasticità, destinata a controbilanciare le pressioni intravenose patologiche (Ipertensione Venosa Deambulatoria). La T.C. "somministra" una medicina, la "pressione", ed esercita la sua azione a riposo (pressione di riposo), nella stazione eretta immobile (pressione standing) e durante la deambulazione (pressione di lavoro) (1). L'entità della pr. di applicazione (pr. di interfaccia) esercitata a riposo viene decisa ed applicata dall'operatore ed è la stessa qualunque sia il materiale che compone il bendaggio. Durante il movimento tale pr. viene esercitata in modo diverso a seconda dei materiali utilizzati che possono essere di tipo elastico ed anelastico o, in caso di bendaggio multistrato, a basso ed alto stiffness. L'Elasticità e lo Stiffness (rigidità) del sistema compressivo viene identificato (2) calcolando l'Indice statico di Stiffness: SSI= pressione ortostatica – pressione supina/1; (3 - 4). Si distinguono sistemi ad alta stiffness (SSI >10) che identifica un sistema anelastico e sistemi a bassa stiffness (SSI<10) che definisce un sistema anelastico. La pr. esercitata dal bendaggio dipende a) dalle caratteristiche tessili - elastomeriche della benda b) dalla tensione applicata dall'operatore c) dal numero degli strati d) dalle caratteristiche anatomiche dell'arto bendato. L'interazione di questi parametri è regolata dalla Legge di Laplace: P=Tn/rh (P=pr. esercitata sulla superficie cutanea T=tensione del tessuto elastico n=numero di spire applicate r=raggio di curvatura della superficie compressa h=altezza benda) (5) La classificazione PLaCE - Pressione (Pressure), Strati (LAyers), Componenti (Components), Proprietà elastica (Elasticity)] (6) - ci permette di descrivere correttamente

qualsiasi sistema di bendaggio e ci permette di ipotizzare un loro impiego clinico in relazione alle caratteristiche complessive misurate in vivo al momento dell'applicazione. P (pressione di applicazione a riposo): bendaggi a pressione leggera (< 20 mm Hg), moderata (20 - 40 mm Hg), forte (40 - 60 mm Hg) molto forte (> 60 mm Hg) La (strati): multistrato o monostrato; l'unico sistema di compressione monostrato è la calza elastica. C Componente: Monocomponente. Multicomponente (Kit di bendaggio) E Proprietà Elastica: Materiali Elastici e Anelastici (estensibili - inestensibili). Il bendaggio ed i sistemi multistrato anelastici esercitano la pressione durante il movimento all'atto della contrazione muscolare. Ne risulta una pressione intermittente, relativamente bassa a riposo (sopportabile), ed alta o molto alta sia in ortostatismo che durante l'esercizio muscolare. Questo provoca una occlusione intermittente del lume venoso quando la pressione esterna supera la pressione intravenosa realizzando un meccanismo simil - valvolare e grande effetto emodinamico sul ritorno venoso. I bendaggi elastici (applicati tese al 50%) o multistrato a basso stiffness non raggiungono mai durante la contrazione muscolare pressioni di occlusione venosa sviluppando durante la deambulazione delle pressioni quasi costanti che variano poco fra la contrazione ed il rilasciamento muscolare con ridotta efficacia emodinamica sull'ipertensione venosa deambulatoria. Nonostante che i bendaggi multistrato multicomponenti anelastici ad alto stiffness rappresentino il gold standard della terapia compressiva sono poco utilizzati per le molteplici difficoltà soprattutto a livello tecnico (personale formato e dedicato all'utilizzo dei sistemi anelastici) e organizzativo (devono essere rimossi e riapplicati in tempi relativamente brevi per riduzione della pressione efficaci nel tempo soprattutto se presente edema).

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Phlebology: should it be called a gender specialty?

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Phlebology has traditionally been approached as a genderneutral field. However, emerging evidence suggests that gender-specific factors play a significant role in the prevalence, presentation, and treatment outcomes of venous diseases. Women are disproportionately affected by conditions such as chronic venous insufficiency and varicose veins, partly due to hormonal influences, pregnancy-related vascular changes, and lifestyle factors. Conversely, men often present with more advanced stages of venous disease, possibly due to delayed healthcare-seeking behavior. This abstract explores phlebology through a gender-specialized lens, highlighting the need for personalized diagnostic approaches, targeted prevention strategies, and tailored treatment modalities. Recognizing gender differences in venous pathology and care can enhance clinical outcomes, improve patient satisfaction, and promote more equitable healthcare delivery within phlebology

Un buon bendaggio è efficace ma... Quanto è difficile trovarlo? Dalla teoria alla pratica: la nostra esperienza in casa di cura

A. Nacchia

La terapia compressiva è uno strumento fondamentale nel trattamento delle ulcere degli arti inferiori. Le più recenti Linee Guida internazionali, infatti, ne raccomandano l'uso col più alto grado di evidenza: l'applicazione di un sistema di compressione multistrato multicomponente migliora il tasso di guarigione delle lesioni. La pressione target è di 40 mmHg; nelle ulcere ad eziologia mista (con componente arteriosa) è raccomandato l'uso di pressioni più basse. I sistemi di compressione anelastici consentono di raggiungere pressioni efficaci, soprattutto nelle forme venose, di evitare l'effetto strizzamento e di essere quindi meglio tollerate dai pazienti; tuttavia, sono di difficile applicazione. Nonostante sia un trattamento relativamente a basso costo, non invasivo e rappresenti ad oggi il gold standard per le ulcere degli arti inferiori, trovare un buon bendaggio risulta ancora molto difficile. Una delle più importanti criticità che si riscontra nella terapia compressiva è infatti la capacità degli operatori sanitari di eseguire un bendaggio corretto e raggiungere pressioni efficaci; un grosso studio tedesco condotto su oltre 800 figure, ha dimostrato che l'85% non ha dimestichezza con l'applicazione dei sistemi di compressione anelastici, in particolare quelli multicomponente (la maggior parte è rappresentata dai medici). Nella prova pratica, solo il 7% ha raggiunto la pressione target. Dopo un periodo di training, il raggiungimento della pressione target a riposo è passata da circa il 9 a oltre il 30%; anche la pressione di lavoro è risultata migliore, passando da 38.7 a 64.3 mmHg. Specifici programmi educativi si sono dimostrati efficaci nel migliorare l'abilità e la confidenza nell'uso delle bende, e il monitoraggio pressorio attraverso specifici strumenti è stato considerato di aiuto da parte degli operatori. Dall'altro lato,

uno dei problemi più importanti nella malattia cronica è l'aderenza a una terapia a lungo termine; la mancata compliance del paziente verso il trattamento è un grosso ostacolo alla sua applicazione sia in prima battuta che nel tempo. Il tasso di aderenza varia dal 21 al 52%. Un paziente riluttante al bendaggio viene da esperienze passate negative, o ha ricevuto svariati trattamenti poco efficaci per le ulcere tanto da non credere più in nessuno di questi. Problemi fisici come il dolore o una compressione percepita troppo forte portano il paziente a rimuovere le bende, sebbene talvolta sia mal tollerato anche solo un leggero malessere; problemi cutanei come irritazione, prurito e secchezza contribuiscono alla scarsa aderenza. Alterazioni dello stile di vita ostacolano l'utilizzo costante e protratto nel tempo delle bende: alcuni pazienti lamentano di non poter indossare le proprie scarpe, o di non riuscire a fare un bagno o una doccia; spesso non hanno un care-giver che li aiuti. Fattori psico-sociali come bassa scolarizzazione, stato depressivo e ridotta autosufficienza sono significativamente correlati con la ridotta aderenza.

Terapia ortesica plantare in pazienti con flebopatie

C. Nuti1

1. Libero professionista

In the physiology of venous return, the Lejars' Plantar Sole and the calf muscle pump constitute a functional unit whose proper functioning also depends on effective walking biomechanics. Many studies indicate the dorsiflexion deficit of the tibiofibular- talar joint (TFJ) as a biomechanical risk factor for Chronic Vascular Disease (CVD). The insufficiency of the TFJ must be contextualized in the dynamics of weight-bearing in what H. Dananberg defined as "Sagittal Plane Insufficiency (SPI)," which also involves the First metatarsophalangeal joint (1st MTP) and the proximal structure on which its proper functioning depends, the First ray (1st r.) – Functional Hallux Limitus (FHL). The functional insufficiency of the TFJ, 1st ray, and 1st MTP complex (FHL) leads to altered weight-bearing dynamics and, consequently, biomechanical and postural compensations that involve not only the foot (e.g., walking with forefoot inversion during push-off, early heel lift, pronation syndrome), but also the segments above (e.g., knee recurvatum), having repercussions that also affect the lumbar spine (loss of the physiological lumbar lordosis).The podiatric approach to Sagittal Plane Insufficiency includes proper clinical assessment (functional biomechanical-postural evaluation) and instrumental assessment (dynamic baropodometric examination, stabilometry) and a therapeutic protocol focused on restoring proper walking dynamics: therapeutic education, biomechanical plantar orthotic therapy (rear-foot and/or forefoot kinetic wedge), functional recovery of the affected areas (manual therapy and physical therapy - posterior postural chain and dysfunctional chain secondary to SPI), therapeutic exercise.

E la Chirurgia? Quando e come?

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Nell'ambito dell'evoluzione delle nuove metodiche endovascolari la domanda che ci pone sempre più è il ruolo attivo della chirurgia tradizionale, nelle sue varie declinazioni, al giorno d'oggi. Nonostante le attuali linee guida nazionali ed internazionali pongano a livelli elevati di evidenza le metodiche endoablative, termiche e non, vi sono tuttavia alcune controindicazioni assolute e relative alle stesse, "aree grigie" in cui la chirurgia continua ad essere rappresentativa. Fra queste, ricordiamo vasi con severa ectasia (cavernomi e/o aneurismi venosi), recidive di crosse non responsive al trattamento scleroterapico, assi venosi fortemente incontinenti ma superficiali, con ricanalizzazioni successive al trattamento endoablativo. In ultimo, la chirurgia delle varici (flebectomia) con accesso chirurgico millimetrico ed utilizzo di uncino, rimane una metodica chirurgica di ottimo impatto estetico, minima invasività (tale da essere praticato comodamente in un setting ambulatoriale) e può essere associato a metodiche endoablative e scleroterapiche degli assi safenici nel medesimo tempo chirurgico o dilazionato. Alcuni centri, fra cui Yoh et al., propongono inoltre la safenectomia per invaginazione segmentaria con accessi chirurgici ridotti; tale metodica ha il vantaggio della radicalità, il ridotto tasso di ematomi (vi è associata una legatura selettiva delle perforanti) e di invasività ma si associa ad una spesa ridotta e non richiede necessità della sala operatoria. Questo ed altri esempi mostrano come non tutti i centri flebologici possano disporre, o comunque disporre senza limite, di apparecchiature e device per approccio mini-invasivo; in tali centri, dopo adeguata selezione, si può garantire ancora uno standard elevato di trattamento per il paziente anche con le metodiche tradizionali. Fondamentale è il ruolo del mappaggio pre-operatorio

Aspetti medico-legali in flebologia e chirurgia flebologica

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Assistiamo sempre più ad un acceso dibattito in ambito flebologico circa gli aspetti medico-legali insiti nella nostra professione. Il rischio di contenzioso nato da erronee diagnosi, erronei o inappropriati trattamenti oppure omessi trattamenti è motivo di disconfort per l'operatore sanitario, talvolta implicato nell'eccesso di esami diagnostici non adeguati o approccio da medicina difensiva. Tra gli elementi che sono oggetto di necessari approfondimenti ricordiamo in prima battuta i fondamenti su cui si basa la responsabilità medica e le loro implicazioni nella pratica flebologica abituale, ovvero negligenza, imperizia ed imprudenza. La negligenza si esplica principalemtne nel tema della mancata diagnosi o mancato processo terapeutico che cagiona danno al paziente, come in ambito di diagnostica e terapia della trombosi venosa profonda. Il secondo tema è connesso all'importanza del consenso informato e della modulistica informativa del paziente, ovvero su quanto è necessaria la descrizione approfondita delle metodiche terapeutiche con relativi rischi e complicanze associate, in un mondo in cui le metodiche soprattutto endoablative per la malattia venosa cronica emergono e si modificano molto rapidamente. Per prevenire e ridurre al minimo il rischio di contenziosi sarà fondamentale: l'aggiornamento continuo in medicina, la comunicazione efficace con il Paziente e l'aderenza a linee guida e protocolli aziendali. In conclusione, la pratica flebologica deve essere guidata da principi etici fondamentali, come il rispetto dell'autonomia del Paziente e la non maleficenza; dovrà essere basata sull'evidenza scientifica e servirsi della multidisciplinarietà per migliorarsi costantemente.

Presa in carico del paziente con Linfedema e Lipedema

A. Piantadosi

Il Linfedema è una patologia ad andamento progressivo ed altamente invalidante che determina una Disabilità La ridotta capacità di trasporto della linfa determina un ristagno più o meno precoce e rilevante di sostanze proteiche negli spazi interstiziali che, oltre a provocare ritenzione dei fluidi, inducono, a loro volta, una fibrosi e sclerosi tissutale, con progressivo coinvolgimento delle strutture vascolari, articolari, muscolari, e nervose loco-regionali. Data l'evoluzione della malattia occorre iniziare precocemente il trattamento adeguato, indicato dalle linee guida : il Trattamento fisico conservativo complesso o combinato CDP (Fòldi) o CDT(complete decongestive therapy I.S.L). Questo approccio è rivolto anche al trattamento dell'edema/linfedema da sovraccarico in patologia metabolica ed al Flebolinfedema ,nonché in maniera differenziata anche al Lipedema. il LIPEDEMA Riconosciuta dall'OMS nel 2018, è una patologia genetica (ereditarietà autosomica a penetranza incompleta) ormone-correlata ,cronica,infiammatoria, degenerativa e potenzialmente invalidante che colpisce il Tessuto Adiposo Sottocutaneo ed ancora più precisamente il tessuto connettivo coinvolgendo anche le altre strutture circostanti . Possibili comorbilità sono l'obesità,le malattie venose, l'ipermobilità,il linfedema,disturbi endocrini. La malattia risponde poco alle diete ipocaloriche, all'esercizio fisico, alle terapie mediche antiedemigene o anche alla chirurgia specialistica. Il trattamento riabilitativo per il LIPEDEMA, deve mirare a ridurre la sintomatologia clinica, recuperare le abilità fisiche del paziente, migliorare in parte l'aspetto estetico ma anche sostenere e curare l'aspetto psicologico. Il Lipedema ed il Linfedema ,patologie multifattoriali complesse, determinano una sofferenza psicofisica che va affrontata e gestita con un approccio basato sul modello di presa in carico Bio-psico-sociale. Il percorso riabilitativo altamente specializzato deve essere strettamente

personalizzato. La presa in carico di un paziente affetto da disabilità deve avvenire all'atto della visita specialistica fisiatrica, con elaborazione del Progetto Riabilitativo Individuale (P.R.I), mirato al recupero funzionale globale della persona, attraverso un'insieme di proposizioni elaborate dall'equipe riabilitativa e coordinate dal medico responsabile. Il miglioramento della sintomatologia dolorosa, la riduzione centimetrica dei volumi degli arti, la maggiore conoscenza e consapevolezza della malattia da parte dei pazienti e soprattutto la gestione a lungo termine dei trattamenti, ci ha permesso di sostenere un percorso terapeutico personalizzato tale da raggiungere gli obiettivi. Nello specifico trattamento della patologia Linfatica e del Lipedema si segnala la necessità di operatori e strutture altamente specializzate ed aggiornate in materia.Il programma riabilitativo ,il setting idoneo, la durata dei trattamenti saranno scelti in base alla tipologia e stadiazione della malattia considerando eventuali condizioni sociali del soggetto .Fondamentale sarà la ricerca della compliance,l'addestramento alla gestione della patologia a lungo termine e corretta igiene comportamentale globale con riduzione delle complicanze. Saranno esposte le modalità di presa in carico riabilitativa differenziati per patologia ,secondo linee guida ed EBM ,sviluppate nella pratica clinica altamente specializzata attraverso esempi di casi clinici. Management of the patient with Lymphedema and Lipedema Lymphedema is a progressive and highly disabling condition that leads to disability. The reduced capacity for lymph transport causes an early and significant stagnation of protein substances in the interstitial spaces, which, in addition to causing fluid retention, in turn induces tissue fibrosis and sclerosis, with gradual involvement of the vascular, joint, muscular, and regional nerve structures.Given the progression of the disease, appropriate treatment should be started early, as indicated by the guidelines: Complex or Combined physical conservative treatment CDP (Földi) or CDT (complete decongestive therapy I.S.L). This approach is also aimed at treating overload edema/lymph edema in metabolic disease and at Phlebolymphedema, as well as in a differentiated manner for Lipedema. LIPOEDEMA ,recognized by the WHO in 2018, is a genetic pathology (autosomal inheritance with incomplete penetrance)

hormone-related, chronic, inflammatory, degenerative, and potentially disabling that affects subcutaneous adipose tissue and even more precisely the connective tissue involving other surrounding structures. Possible comorbidities include obesity, venous diseases, hypermobility, lymphedema, and endocrine disorders. The disease responds poorly to low-calorie diets, physical exercise, anti-edema medical therapies, or even specialized surgery. The rehabilitative treatment for LIPOEDEMA should aim to reduce clinical symptoms, recover the patient's physical abilities, improve the aesthetic appearance to some extent but also support and address the psychological aspect. Lipedema and Lymphedema, complex multifactorial pathologies, cause psychophysical suffering that needs to be addressed and managed with an approach based on the model of Bio-psycho-social care. The highly specialized rehabilitation pathway must be strictly personalized. The care of a patient with disabilities should take place at the time of the physiatric specialist visit, with the development of the Individual Rehabilitation Project (P.R.I), aimed at the overall functional recovery of the person, through a set of propositions developed by the rehabilitation team and coordinated by the responsible physician. The improvement of painful symptoms, the centimetrical reduction of limb volumes, the greater knowledge and awareness of the disease on the part of the patients, and especially the long-term management of treatments, has allowed us to support a personalized therapeutic pathway in order to achieve the objectives. In the specific treatment of Lymphatic pathology and Lipedema, there is a need for highly specialized and updated operators and facilities in the field. The rehabilitation program, the appropriate setting, and the duration of treatments will be chosen based on the type and staging of the disease, considering any social conditions of the individual. The search for compliance will be fundamental, as well as training in the management of the pathology in the long term and correct overall behavioral hygiene with a reduction in complications. The methods of rehabilitative care will be presented, differentiated by pathology, according to guidelines and EBM, developed in highly specialized clinical practice through examples of clinical cases.

Stadi avanzati della malattia e comorbidità

R. Piove

Varicose veins (VV) and chronic venous insufficiency (CVI) are different manifestations of chronic venous disease(CVD) and belong to the most frequent diseases in the adult population worldwide. we could confirm higher age, female gender, number of pregnancies, family history of VV and overweight or obesity as risk factors for VV, venous edema (C3) and severe CVI (C4–C6). CVI is associated with the presence of cardiovascular risk factors and disease. Individuals with CVI experience an elevated risk of death, which is independent of age and sex, and present cardiovascular risk factors and comorbidities.

Prophylaxis and treatment of venous thromboembolism in cancer patients

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Venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism (PE), represents a significant cause of morbidity and mortality in cancer patients. Malignancy is a well-established prothrombotic condition, and cancer patients have a 4- to 7-fold increased risk of developing VTE compared to the general population. The pathophysiology involves a complex interplay of tumor-associated procoagulant factors, inflammatory cytokines, endothelial dysfunction, and treatment-related factors such as chemotherapy, surgery, and indwelling central venous catheters. VTE can adversely impact cancer prognosis, delay cancer therapy, increase healthcare utilization, and decrease quality of life. Consequently, the prevention and management of VTE are essential components of comprehensive oncologic care. Risk stratification plays a pivotal role in identifying patients at high risk for VTE and guiding prophylactic strategies. Tools such as the Khorana score, which incorporates tumor type, platelet count, hemoglobin level, leukocyte count, and body mass index, are widely used in ambulatory cancer patients to predict thrombotic risk. More recent models and biomarkers, including D-dimer levels and P-selectin, have been proposed to refine risk prediction. Despite the availability of predictive tools, VTE prophylaxis remains underutilized, especially in ambulatory settings, due to concerns about bleeding risk and the lack of definitive evidence in certain subpopulations. Pharmacologic prophylaxis with low molecular weight heparins (LMWHs) has demonstrated efficacy in reducing the incidence of VTE in hospitalized and postoperative cancer patients. In recent years, direct oral anticoagulants (DOACs), such as apixaban and rivaroxaban, have emerged as effective alterna-

tives for prophylaxis in selected ambulatory cancer patients at intermediate-to-high thrombotic risk. Large randomized controlled trials such as AVERT and CASSINI have shown that DOACs can reduce VTE events with an acceptable safety profile, though bleeding risks, particularly gastrointestinal bleeding, must be carefully weighed. Current guidelines from ASCO, NCCN, ISTH, and ESMO support selective prophylaxis in ambulatory patients with elevated risk, particularly those with a Khorana score ≥2, and recommend routine prophylaxis in hospitalized cancer patients with acute medical illness or undergoing major surgery. However, DOACs are not registered in Europe for this indication. The treatment of established VTE in cancer patients requires a careful balance between thrombosis prevention and bleeding risk. Historically, LMWHs were the mainstay of therapy, with trials such as CLOT demonstrating their superiority over vitamin K antagonists (VKAs) in reducing recurrence. However, the advent of DOACs has revolutionized the management landscape. Studies like Hokusai VTE Cancer, SELECT-D, and CARAVAGGIO have established the non-inferiority of DOACs to LMWHs in terms of efficacy, with comparable or slightly increased bleeding risks depending on cancer type and location. The CARAVAGGIO trial, for instance, showed that apixaban was as effective as dalteparin with no significant increase in major bleeding, including gastrointestinal hemorrhage. However, caution is still advised when using DOACs in patients with gastrointestinal or genitourinary malignancies, mucosal tumors, or high bleeding risk. Treatment duration for cancer-associated VTE is typically at least 3 to 6 months, with extended anticoagulation considered in the presence of ongoing active cancer, chemotherapy, or persistent risk factors. The decision to continue therapy must consider the evolving status of the malignancy, treatment plan, patient preference, quality of life, and the dynamic balance between thrombotic and bleeding risks. Reassessment at regular intervals is needed. Catheter-related thrombosis is another important clinical scenario in oncology. While prevention with routine anticoagulation is not generally recommended, symptomatic catheter-associated DVT is treated similarly to other forms of VTE, with LMWHs or DOACs depending on patient factors. Anticoagulation is usually

continued for at least 3 months or as long as the catheter remains in place. Thromboprophylaxis in special populations—such as patients with thrombocytopenia, brain tumors, renal impairment, or those receiving immunotherapy—requires individualized approaches. For example, patients with thrombocytopenia (platelets <50,000/μL) may need dose adjustments or temporary interruption of therapy, while those with intracranial malignancies have an increased hemorrhagic risk, necessitating careful risk-benefit analysis. Emerging directions in cancer-associated thrombosis (CAT) management include the use of novel biomarkers, individualized anticoagulant dosing, and integration of artificial intelligence in risk prediction. Moreover, the identification of cancer-specific thrombosis mechanisms has prompted exploration of targeted therapies. For example, tumor-derived tissue factor and microparticles are being studied as potential therapeutic targets to reduce thrombosis without systemic anticoagulation. Despite advancements, gaps remain in the optimal management of CAT, including underrepresentation of certain cancer types (e.g., hematologic malignancies), limited data on long-term anticoagulation beyond one year, and the need for real-world data in diverse populations. Multidisciplinary collaboration among oncologists, hematologists, and thrombosis specialists is vital to provide tailored, patient-centered care. In conclusion, VTE remains a frequent and serious complication in patients with cancer. Risk stratification, evidence-based prophylaxis, and individualized treatment strategies are essential to minimize thrombotic complications while mitigating bleeding risks. The increasing use of DOACs offers convenience and efficacy, but requires judicious patient selection. Ongoing research and refinement of clinical guidelines will continue to improve outcomes in this vulnerable patient population. In the future, new anticoagulants inhibiting factor XI/Xia could enter in use in the treatment of VTE in oncology.

The influence of sex and gender on metabolic and vascular complications associated with obesity

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Obesity represents a public health problem affecting millions of people worldwide (WHO), as it increases the risk of many diseases, including type 2 diabetes mellitus (T2DM), cardiovascular diseases (CVDs), non-alcoholic fatty liver disease, several types of cancer, and Alzheimer's disease. Currently, 18.5% of women and 14% of men worldwide are obese. Lifestyle-related factors, as well as epigenetic and genetic mechanisms, appear to influence metabolic complications and disease risk in a sex-specific manner. In addition to differences in obesity prevalence, men and women also display distinct adipose tissue composition and distribution. Men tend to accumulate fat in the upper part of the body (visceral fat), whereas women primarily store fat in the lower body (subcutaneous fat). This reflects a sexual dimorphism in lipid uptake and storage in adipose tissue. In women, subcutaneous fat may serve as a safe reservoir for excess energy, release beneficial metabolic products and adipokines, and directly regulate systemic metabolism. In contrast, the higher visceral adiposity observed in men is associated with negative metabolic consequences, such as elevated postprandial insulin, free fatty acids, and triglyceride levels. Conversely, the distribution of adipose tissue in women - particularly in premenopausal women - appears to offer protection against obesity-related complications such as diabetes, CVDs and atherosclerosis. Sex hormones have significant effects on both adipose tissue mass and its distribution. Estrogens play a role in promoting better glucose homeostasis and insulin sensitivity in women than in men. However, this protective effect diminishes after menopause, as the reduction in estrogen levels leads to changes in body composition and glucose regulation, resulting in an increased incidence

of metabolic and cardiovascular disorders. Obesity, commonly associated with chronic low-grade inflammation, is also linked to vascular endothelial dysfunction. Inflammatory responses and vascular dysregulation in men and women with obesity are mediated by different mechanisms. Sex hormones play a fundamental role in regulating vascular homeostasis in a sexually dimorphic manner. However, recent findings indicate that sex itself also plays an important role in the regulation of endothelial cell physiology, independent of sex hormones. All these findings highlight the urgency of considering sex and gender differences in basic and preclinical research to generate sex-specific information to support the development of tailored strategies for the prevention and treatment of obesity-related diseases.

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From connective tissue to muscle: an observational ultrasound study exploring structural and sensory alterations in lipedema

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INTRODUCTION: Lipedema is a chronic, progressive disease of the loose connective tissue, underdiagnosed and affecting approximately 10–15% of women in Western countries (Földi E et al., 2012; Langendoen SI et al., 2009; Herbst KL, 2008). Despite its high prevalence, lipedema is often misrecognized, with an average diagnostic delay of 15–20 years (Schmeller W et al., 2016), frequently misclassified as obesity, cellulite, or lymphedema. Among the most relevant features is spontaneous chronic pain, reported by 70–88% of patients (Child AH et al., 2000), often occurring even without visible edema or major morphological changes. Pain is typically described as deep, burning, heaviness-like, or evoked by minimal stimuli (allodynia), significantly impacting physical functioning and psychosocial well-being. According to Aksoy H et al. (Dermatol Ther. 2021), pain in lipedema is spontaneous, diffuse, and exacerbated by minimal stimuli, suggesting microvascular alterations, adipose fibrosis, and sympathetic hyperactivation. Similarly, Dinnendahl R et al. (Pain Rep. 2024) showed that non-obese patients with lipedema exhibit reduced pressure pain thresholds and increased vibration thresholds in affected thighs, but not in the hands. These findings support the presence of a distinctive sensory profile, independent of obesity, consistent with peripheral dysfunction potentially evolving into central sensitization. MATERIALS AND METHODS: This preliminary observational study aimed to investigate structural and sensory alterations in patients with lipedema through standardized ultrasound and elastographic assessment. Fifteen female patients diagnosed with lipedema were en-

rolled and underwent comprehensive ultrasonographic and elastographic evaluations (tissue thickness, stiffness quantification, subcutaneous architecture, and fiber and septal arrangement) to characterize dermal and hypodermal structures and explore potential correlations with pain perception. Participants were aged between 47 and 59 years, with a mean age of 53.13 years and a standard deviation of 3.56. All patients were classified as having stage II or III lipedema. Ultrasound imaging represents a fundamental tool in the assessment of lipedema, enabling non-invasive evaluation of subcutaneous tissue thickness and architectural organization. Typical sonographic findings include an increased thickness of the adipose layer, heterogeneity of the tissue texture, and thickening of the fibrous septa. Furthermore, ultrasound facilitates the differential diagnosis of lipedema from conditions such as lymphedema and cellulitis. Elastography provides complementary information by quantifying tissue stiffness, which is typically elevated in lipedema as a result of progressive extracellular matrix fibrosis. Therefore, elastography serves as a valuable adjunct for refining differential diagnosis and objectively monitoring disease progression. RESULTS: Patients with lipedema exhibited significant alterations of collagen fibers, evidenced ultrasonographically by hyperechogenicity of the extracellular matrix and thickening of collagen bands, both at the level of the hypodermis and, more deeply, in correspondence with the superficial muscular fascia. In addition, elastographic evaluation demonstrated not only increased stiffness of the subcutaneous tissue but also a marked increase in rigidity at the level of the superficial muscular fascia, likely reflecting early fibrotic involvement of the fascial plane These structural modifications reflect a fibrotic remodeling of the extracellular matrix, a phenomenon extensively described in the literature as a hallmark of the pathological process underlying lipedema. At a more superficial level, alterations of the dermo-hypodermal junction were also observed, with a disappearance of adipose papillae, indicative of a pathological rearrangement of the normal connective tissue architecture. This junction, normally a transition between reticular dermis and superficial adipose tissue, plays a critical role in mechanical force distribution and skin resilience. Loss of adipose

papillae compromises this structure, reducing elasticity and promoting microtrauma, edema, and fibrosis, similar to what is seen in scleroderma and post-radiotherapy fibrosis. Extracellular matrix alteration also impairs mechanical stimulus transmission, contributing to mechanoreceptor dysfunction, hypersensitivity, allodynia, and spontaneous pain. Mechanoreceptors such as Ruffini endings, Pacinian, and Meissner corpuscles rely on an intact mechanical environment, and fibrosis disrupts this balance, lowering activation thresholds and promoting pain responses to normally harmless stimuli. Furthermore, fibrosis of the superficial muscular fascia may exacerbate pain by increasing stiffness, mechanical tension, and nerve compression, amplifying nociceptive sensitization. Fascial fibrosis, already implicated in other musculoskeletal chronic pain conditions, may thus represent an additional mechanism in the pathogenesis of chronic pain in lipedema. These structural and functional alterations may contribute not only to pain development but also to increased skin fragility and propensity for spontaneous bruising. CONCLUSIONS: The structural alterations observed in lipedema, including extracellular matrix fibrosis, collagen band thickening, and disruption of the dermo-hypodermal junction, may play a central role in altered sensory perception, nociceptive modulation, and chronic pain development. Disorganization of tissue architecture and loss of adipose papillae appear to promote both peripheral and potential central sensitization, explaining the frequent allodynia and hyperalgesia reported by patients. Moreover, fibrosis of the superficial muscular fascia may exacerbate pain through increased fascial stiffness, mechanical tension, and nerve compression, further amplifying nociceptive processes. These findings suggest that lipedema should be considered a complex connective and fascial tissue disease, with significant effects on skin biomechanics, myofascial dynamics, and sensory function. Early detection of these changes via ultrasound and elastosonography could support a more holistic and integrated therapeutic approach, targeting not only physical manifestations but also pain management and quality of life improvement. Although further research is warranted, these preliminary insights significantly advance the understanding of lipedema as a complex disease in-

volving connective and fascial tissues. They also underscore the role of ultrasound and elastography as early diagnostic and therapeutic planning tools. Furthermore, the structural and sensory alterations observed open new avenues for research into the pathophysiology of chronic pain in lipedema, paving the way for more integrated and personalized treatment strategies

Uso di farmaci venoattivi in seguito ad intervento per le vene varicose: uno studio preliminare

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BACKGROUND: Lo scopo di questo lavoro è stato quello di valutare l'uso di farmaci venoattivi (VenoActive Drugs, VAD) in seguito ad intervento chirurgico per malattia venosa cronica nella nostra Unità Operativa in termini di compliance dei pazienti alla terapia, di un possibile effetto sul dolore postoperatorio e sulla qualità di vita (QoL). METODI: Sono stati analizzati retrospettivamente i dati di pazienti consecutivi sottoposti a intervento chirurgico. Tutti i pazienti sono stati interrogati telefonicamente a 90 giorni dall'intervento sull'assunzione del VAD (sulodexide o MPFF) raccomandato nel periodo postoperatorio. Sono stati raccolti i dati sulla durata della terapia, sull'intensità del dolore percepito (da 0 a 10) in prima, settima e trentesima giornata postoperatoria (POD), la durata del riposo dalle attività quotidiane e la QoL durante il primo mese postoperatorio (attraverso il questionario SF-12). Sono stati considerati significativi i valori con P <0,05. I risultati dei pazienti che hanno assunto il VAD sono stati confrontati con quelli dei pazienti che non hanno assunto il VAD (studio caso-controllo). RISULTATI: In totale sono stati operati 132 pazienti. In particolare, 43 pazienti sono stati sottoposti a termoablazione della vena grande safena mediante radiofrequenza (RFA); 43 pazienti sono stati sottoposti a stripping della vena grande safena o crossectomia; 46 pazienti sono stati sottoposti a flebectomie. In ogni gruppo, due terzi dei pazienti hanno assunto. Di questi, il 24% ha assunto il farmaco per meno di 30 giorni. Non sono state registrate differenze significative tra i pazienti che hanno assunto il farmaco e quelli che non lo hanno assunto, sia in termini di intensità del dolore

(in prima, settima e trentesima giornata postoperatoria), sia in termini di giorni di riposo dalle attività quotidiane che di QoL. CONCLUSIONI: Indipendentemente dai gruppi, circa un terzo dei pazienti non ha assunto il farmaco raccomandato dopo l'intervento. Non è stata registrata alcuna differenza tra coloro che hanno assunto la terapia e coloro che non l'hanno fatto in termini di intensità del dolore postoperatorio, durata del riposo dalle attività quotidiane e QoL

Trattamento endovascolare di phlegmasia coerulea dolens in paziente giovane covid19+

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INTRODUZIONE: L'associazione fra infezione da Sars-Cov-2 e conseguente patologia da COVID19+, soprattutto se sintomatica, è stata associata in maniera ben documentata ad un rischio aumentato di trombosi venose e arteriose, soprattutto in presenza di ulteriori fattori di rischio presenti nella triade di Virchow, tra cui la talvolta necessaria immobilizzazione prolungata e le trombofilie congenite/acquisite di altra natura. CASO CLINICO: Descriviamo il caso della Sig.ra CD, 20 anni, a distanza di un mese da un aborto spontaneo alla X settimana, con conseguente revisione chirurgica uterina, sviluppava improvvisamente edema a carico dell'arto inferiore, bilateralmente, con dispnea. Eseguiva accertamenti culminati con esame TC c/mdc ove si evidenziava embolia polmonare segmentaria e subsegmentaria, trombosi cavale con estensione all'origine della vena renale di destra, assi iliaco-femorali bilateralmente. Collateralmente, si evidenziava stato settico e infezione COVID19+; evidenza radiologica di monorene funzionale destro con grinzo a sinistra. In prima battuta si provvedeva a trattamento con UFH e antibiotico-terapia ad ampio spettro, successivamente si provvedeva a posizionamento di filtro cavale temporaneo. Esame TC successivo mostrava peggioramento strumentale con estensione della trombosi per cui si procedeva a ricanalizzazione endovascolare iliaco-cavale mediante tromboaspirazione, con buona riperfusione ma stenosi serrata residua della vena cava pararenale. La flebografia successiva mostrava la persistente pervietà dei vasi trattati, con stenosi in assenza di apparente materiale trombotica della vena cava per cui si procedeva a PTA e successiva rimozione del FC, buon esito. Invio di materiale adeso a FC per valutazione istologica negativo per neoplasie. Follow-up clinico e

con ecocolorDoppler Venoso non mostra presenza di SPT, buona pervietà dei vasi trattati. CONCLUSIONI: Il trattamento invasivo, endovascolare, delle trombosi iliacocavali sintomatiche nel paziente giovane è un argomento sempre più in primo piano negli ultimi anni. Il caso proposto mostra un buon risultato clinico-strumentale su paziente giovane con patologia trombotica estesa e in condizione di plurimi associati fattori di rischio.

3D ultrasound imaging optimizing the safety and effectiveness of ultrasound-guided foam sclerotherapy

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Background and Aim: Recent advancements in ultrasound technology allow 3D volumetric imaging of the venous system. This presentation aims to assess how 3D imaging enhances the precision, safety, and therapeutic outcomes of ultrasound-guided foam sclerotherapy. Materials and Methods: Use of a high-frequency linear probe (10–15 MHz) with an advanced ultrasound system equipped with 3D imaging software enabling tomographic reconstruction of the venous system.
Results: 3D ultrasound imaging:

- Provides high-resolution and volumetric visualization of the venous network, comparable to MRI, with immediate accessibility and reproducibility in clinical practice.
- Improves diagnostic capabilities by accurately mapping complex venous anatomies (e.g., recurrences, perforators, tributaries, junctions, anatomical variants).
- Enhances treatment planning by:
    - Accurately identifying the path and tortuosity of the incompetent saphenous vein,
    - Optimizing foam volume estimation,
    - Selecting the most suitable injection point.
- Allows real-time post-injection assessment of both intravascular and perivenous vein spasm, which is predictive of therapeutic success.

Conclusion 3D ultrasound imaging significantly improves decision-making

in foam sclerotherapy by providing a more detailed understanding of patient-specific venous anatomy. It contributes to safer, more effective treatments and may increase adoption of this technique among young vascular specialists. Additionally, 3D images are more intuitive for patients, improving comprehension, consent, and adherence to therapy. Keywords: 3D ultrasound, ultrasound guided foam sclerotherapy, venous imaging

Le teleangiectasie “ostinate”: la tecnica start.

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THE START TECHNIQUE FOR TELEANGIECTASIA: Aims: Sclerotherapy is the treatment of choice for teleangiectasia of lower limbs. However, teleangiectasia may be refractory to even well-managed treatment, and treatment may be impossible in patients who are extremely sensitive to pain. For such case, some authors and I propose a different approach: the START technique (Sclerotherapy in Tumescent Anesthesia of Reticular Veins and Teleangiectasias). Methods: Identifying the feeder veins (with a transilluminator) is important for the results of sclerotherapy and the external compression increases the response rate in sclerotherapy for teleangiectasia and reticular veins. Nonetheless, the effect of the compression is feeble, even non existent, in particular in thigh. Above all, If the first puncture is not in the right vein. I choose to inject a isotonic solution, into the sub-cutaneous tissue immediately before or after sclerotherapy. This injection ensures high intra-tissue pressure for at least one hour. Results: in the last two year more than 30 patients have been treated for refractory teleangiectasia, with good aesthetical results, and with less frequent side effects (pigmentation, sclerus, necrosi) towards the others technique. Conclusion: the start technique is effective, but to be done carefully in expert hands. It has a place in our therapeutic arsenal for the treatment of refractory teleangiectasia or in patients who are unable to bear the pain caused by sclerotherapy.

A case report of leiomiosarcoma of saphenous vein

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2. *Department of Motor Sciences, Parthenope University, Naples*

Introduction: The authors report a rare case of leiomyosarcoma of the great saphenous vein (GSV).

Material: The case concerns a 72-year-old white male whose symptoms were limited to tension in the left thigh and pain in the same area during exercise or prolonged walking. The first-level investigation with echo-Doppler revealed a thrombosis of the left great saphenous vein with suspected presence of a satellite lymph node, for which the patient was first treated with a 10-day course of heparin therapy.

Subsequently, after verifying the persistence of symptoms after treatment with low molecular weight heparin and in the diagnostic doubt arising from the structure described as “lymph node”, a magnetic resonance imaging (MRI) of the lower limbs was performed, which indicated the presence of a mass “adherent” to the left great saphenous vein. Therefore, as the symptoms persisted and also because of the doubts about the nature of this mass, a block removal of the mass, 5.5 cm in diameter, was performed, which was structurally involved and originated from the wall of the great sagen vein. The histological examination identified this mass as “saphenous leiomyosarcoma”, for which the patient was sent for oncological evaluation.

After 1 month from the removal operation, a surgical revision was performed, on oncological indication, with muscle removal and inguinal lymphadenectomy of the left thigh, with the aim of radicalization. The patient was then subjected to a cycle of radiotherapy. The “total body” angio-CT control carried out after 6 months, however, identified the presence of pulmonary metastases for which the patient was subsequently subjected to

a cycle of chemotherapy, with the outcome of the patient's death after 5 months from the start of chemotherapy.
Discussion: Venous leiomyosarcoma is difficult to diagnose: it requires the use of magnetic resonance imaging or positron emission tomography (PET-CT) where possible.
Conclusions: Radical and extensive surgical therapy is indicated as the first-line therapy, followed by radiotherapy and chemotherapy. Early mortality for these rare diseases is high.

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Genetic findings in patients with klippeltrenaunay syndrome

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Introduction: Klippel-Trenaunay syndrome is a syndromic vascular disease that affects the normal growth of blood vessels, altering it.
It is a rare, congenital disease that manifests itself at birth. It usually involves one limb, mainly the lower limb; rarely it involves multiple limbs, or the trunk, face or entire body.
Among the proposed etiological theories are genetic predisposition, sporadic disease and the concomitance of two different types of genetic mutations: the genetic mutation of the protein responsible for angiogenesis (PIK3CA – phosphatidyl-inositol-4,5- bisphosphate 3-kinase-catalytic subunit alpha) has often been found.
Materials and Methods: 19 patients (11 males and 9 females) aged 2 to 47 years were observed, with a clinical diagnosis of Klippel-Treanunay syndrome based on cutaneous nevus, limb hypertrophy and angiodysplastic varices. Of these patients, 63% saw the presence of the three clinical features and 37% saw the presence of only 2 clinical features: the cutaneous nevus was observed in 92% of cases, limb hypertrophy in 67% and the presence of venous anomalies in 72% of cases. All enrolled patients were subjected to genetic testing through a 3cc peripheral blood sample, in order to evaluate the presence of mutations of the PIK3CA protein. The genetic study was carried out in collaboration with the genetic laboratories belonging to the Magi Group of Rovereto (BZ) and the Fondazione Casa Sollievo della Sofferenza, San Giovanni Rotondo (FG).
Results: The outcome of the genetic tests performed demonstrated the mutation of the PIK3CA protein in 6 subjects examined out of 19 examined (31%).

Conclusions: The results obtained show the relative incidence of the mutation of the PIK3CA protein in Klippel-Trenaunay syndrome: this data participates in the hypothesis on the selective use of treatment with drugs inhibiting the PI3K protein for the treatment of this vascular malformation.

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A case report of leiomiosarcoma of Saphenous vein

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Picc versus port venous access: unveiling long-term safety, complications and costs of central venous access choices

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Background: Peripherally inserted central catheters (PICCs) and totally implantable venous access devices (PORTs or PORT-a-cath) are commonly employed for the administration of medium- to longterm intravenous therapies, such as chemotherapy, parenteral nutrition, and prolonged antibiotic regimens. The selection of an appropriate central venous access device (CVAD) is a pivotal clinical decision influenced by anticipated treatment duration, procedural complexity, cost considerations, patient preferences, and—critically—the profile of early and late complications. Although both devices ensure reliable access to the central venous circulation, they are associated with distinct complication spectra that may influence patient morbidity, therapeutic efficacy, and healthcare resource allocation. A comprehensive understanding of these divergent risk profiles is essential for evidence-based decision-making, the process of informed consent, and optimization of clinical outcomes. This review aims to delineate the comparative incidence and nature of early and late complications associated with PICCs and PORTs across varied clinical scenarios. Methods: A comprehensive literature review and analysis were performed utilizing randomized controlled trials (RCTs), prospective and retrospective cohort studies, meta-analyses, and systematic reviews. The methodology involved systematic extraction and comparative analysis of data specifically addressing early complications—defined as events occurring during

or immediately after catheter insertion (e.g., insertion site bleeding, catheter malpositioning, pneumothorax associated with surgical placement)—and late complications emerging over prolonged catheter usage, such as catheterrelated bloodstream infections (CRBSIs), venous thromboembolic events (VTE), including deep vein thrombosis (DVT) and catheter-related venous thrombosis (CR-VT), mechanical failures (catheter occlusion, migration, fracture), and localized site reactions. Primary outcomes pulled out were incidence rates, relative risks (RR), odds ratios (OR), hazard ratios (HR), and statistical significance levels comparing complications associated with peripherally inserted central catheters (PICCs) and implanted port devices (PORTs). Other variables considered were differences in procedures, such as ultrasound guidance and methods of tunneling, type of catheter such as cuffed vs. non-cuffed and antimicrobialimpregnated catheters, and catheterrelated complication treatment protocols, such as the use of tissue plasminogen activator for occlusionsEconomic evaluations assessing the comparative cost-effectiveness and financial implications of complications associated with PICCs versus PORTs were also reviewed and integrated into the analysis. Results: Overall, the analysis demonstrated that implanted port devices (PORTs) were consistently associated with lower risks of lateonset complications, specifically catheter-related bloodstream infections (CRBSIs) and venous thromboembolism (VTE), when compared to peripherally inserted central catheters (PICCs). Nevertheless, the magnitude of risk differences varied according to patient-specific factors, therapeutic indications, and duration of catheterization. Multiple studies consistently indicated an increased incidence of CRBSIs associated with PICCs, notably in oncology patient populations. For example, in patients with diffuse large B-cell lymphoma, PICC use significantly elevated the adjusted relative risk for bloodstream infections. Alternative techniques involving antimicrobial-impregnated or tunneled PICCs exhibited heterogeneous efficacy at preventing infection risk; specifically, non-cuffed tunneled PICCs appeared to provide superior infection control compared to cuffed ones. PICCs were also linked with higher rates of thrombotic events, especially in cancer patients. Meta-analyses confirmed statistically

significant reductions in thrombotic complications in patients on PORTs. Important determinants of thrombosis risk were insertion technique and catheter-tovein ratio, and more specifically, ultrasound-guided catheter insertion by the modified Seldinger technique was a lower risk approach. Mechanical complications as catheter fracture, migration, and occlusion occurred more frequently with PICCs.The fully subcutaneous configuration of PORTs conferred greater protection against external catheter displacement. Alteplase administration emerged as a standard therapeutic measure for managing PICC-related occlusions. Device failure, encompassing occlusion, infection, migration, and catheter fracture, represented an important outcome parameter for evaluating catheter performance. Although PICC insertion is minimally invasive, complications were encountered, including bleeding at the insertion site and malposition of the catheter. Conversely, PORT placement, traditionally involving surgical techniques, posed procedural risks such as pneumothorax; however, the advent of percutaneous approaches has substantially reduced such adverse outcomes. Comparative evaluations indicated similar periprocedural safety profiles between tunneled and conventional PICCs. Economic assessments indicated that PICCs were generally more cost-effective for short- to intermediate-term catheterization periods (≤9 months) due to their lower initial and maintenance expenses. Conversely, PORTs demonstrated greater cost-efficiency for prolonged durations of catheter use (≥9–12 months) by decreasing expenditures associated with complications. Consequently, the anticipated duration of treatment emerged as a pivotal factor in determining optimal catheter selection from an economic perspective. Conclusion: Current evidence clearly supports the long-term safety of totally implantable venous access devices (PORTs) over peripherally inserted central catheters (PICCs), particularly in preventing catheter-related bloodstream infections and thromboembolic complications. PORTs, given their advantageous risk profile, should be preferred in patients requiring prolonged intravenous therapy, such as adjuvant chemotherapy, whenever clinically feasible. In spite of the procedural simplicity and lower immediate costs associated with PICCs, their higher rates of mechanical and infectious com-

plications justify careful use. Future clinical practice should adopt a more individualized and evidence-driven approach to vascular access device selection, integrating patient-specific risk factors, anticipated therapy duration, economic considerations, and institutional capabilities. Furthermore, technological innovations and procedural refinements must continue to be rigorously evaluated. High-quality, prospective, multicenter studies with standardized outcome measures are urgently needed to optimize device selection algorithms, improve patient outcomes, and develop more precise, context-specific clinical guidelines.

DOACs' personalized choice: are there any differences?

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Introduction: Direct oral anticoagulants (DOACs) are nowadays recommended in the prevention and treatment of venous thromboembolism (VTE) and prevention of stroke and systemic embolism in atrial fibrillation (AF)1,2. They have shown noninferiority to vitamin K antagonists and have several advantages, i.e. set oral dosage, no need for routine monitoring, and a reduced risk of drug-drug interaction1,2. However, clinical practice is not that simple: selecting the appropriate DOAC for a specific patient requires careful assessment of the drug's pharmacokinetic, the patient's characteristics (i.e., age, weight, renal and hepatic function, bleeding risk, comorbidities), and potential drug-drug interactions. DOACs' pharmacokinetics characteristics: DOACs can be divided into two classes: direct thrombin inhibitors (dabigatran) and factor Xa inhibitors (apixaban, rivaroxaban, and edoxaban). Each DOAC has unique pharmacokinetic and pharmacodynamic properties. For example, dabigatran, compared to Xa inhibitors, has an almost exclusive renal excretion, which may require caution in patients with renal impairment. Furthermore, bioavailability differs depending on the chosen drug: rivaroxaban absorption increases by 40% with food, while dabigatran absorption is affected by gastric pH3,4.
In vitro studies show that DOACs are substrates for Pglycoprotein (P-gp) and cytochrome p450. Therefore, they may interact with drugs that inhibit or induce these pathways. For example, azole antifungals and macrolide antibiotics are potent inhibitors of both P-gp and CYP3A4 and can increase DOAC levels, increasing the risk of bleeding5 . Conversely, rifampin and carbamazepine are inducers of both P-gp and CYP3A4 and can decrease DOAC levels, potentially leading to reduced efficacy5.

Materials and methods: The data shown here were derived from current AF and VTE guidelines issued by the European Society of Cardiology (ESC), the 2021 Practical Guide by the European Hearth and Rhythm Association (EHRA), the ISTH Consensus Guidelines, and DOAC registration studies1,2,6.

Results: Considering the current literature, DOACs are in general efficacious and safe in several special populations. However, their individual pharmacokinetic and pharmacodynamic features, combined with the patient's profile may result to a preferred drug choice. Some of these cases are discussed below.

- Cancer and VTE: cancer patients are at higher risk of VTE as well as bleeding, depending on the type of cancer, ongoing therapy, anaemia and thrombocytopenia. In these patients, 2019 ESC Guidelines recommend Xa inhibitors (apixaban, rivaroxaban and edoxaban) over VKA, excluding dabigatran. Apixaban may also be a selected in case of gastrointestinal malignancies2.
- Renal impairment and AF: renal impairment is a common comorbidity in patients with AF, where DOACs are deemed safe and effective in patients with mild to moderate impairment.1 According to 2024 ESC Guidelines and DOACs registration studies, dose adjustment is recommended to avoid an excessive bleeding risk, and dabigatran should be used with caution due to its pharmacokinetic.1 As new evidences show, apixaban is now approved in the United States also in patients with end stage kidney disease7.
- Hepatic impairment: hepatic impairment can affect DOACs' pharmacokinetic, particularly Xa inhibitors3. Each patient should be evaluated regarding their bleeding risk, taking into consideration factors such as platelet count, varices' presence or other comorbidities. DOACs are contraindicated in Child-Pugh Class C, whereas in Class B rivaroxaban is contraindicated due to its enhanced hepatic metabolism. On the other hand, DOACs are considered safe in mild impairment6.
- Patients receiving DOACs and antiepileptic drugs: all DOACs may interact with several antiepileptic drugs, such as carbamazepine, which

is a p450 cytochromes inducer, reducing DOACs' effectiveness and raising the risk of thromboembolic events. The 2021 EHRA Practical Guide recommends caution or contraindicates co-administration; in some circumstances, blood level monitoring may be useful6.

- Menstrual cycles and VTE: women with heavy menstrual bleeding may be at a higher risk of haemorrhage when using DOACs. Data from the registration studies reveal that rivaroxaban and edoxaban have an increased rate of vaginal bleeding in women than VKA, while apixaban have demonstrated a higher rate of nonclinically significant bleeding8,9. In contrast, post-hoc analysis found that women treated with dabigatran had a lower incidence of vaginal bleeding. In some cases, haemostatic medications, such as tranexamic acid, may be required10.
- Obesity and VTE: in patients with BMI > 40 Kg/ m2 or body weight > 120 Kg, the 2021 ISTH Guidelines suggests rivaroxaban or apixaban, while dabigatran and edoxaban have inconclusive data in these patients11.
- Underweight: there are no clear data for DOACs in patients with weight < 50 Kg or BMI > 18,5 Kg/m2 6.
- Conclusions & Recommendations: Nowadays, DOACs are considered the first choice for treating and preventing VTE and embolism prevention in AF1,2. Selecting the optimal DOAC demands careful examination of the intrinsic pharmacokinetic features, the patient's clinical profile, and potential drug-drug interactions. Although these medications belong to the same pharmacological class, they have small differences, as shown above, which could aid in treatment personalization and better balancing the bleeding and thromboembolic risk. Further research is necessary to assess the efficacy and safety of DOACs in these special populations, as well as to identify biomarkers that can aid in medication tailoring.

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Sindrome compressiva iatrogena della vena iliaca sinistra

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Introduzione: Il trattamento di stenting delle sindromi da compressione iliaca rappresenta una procedura ancora dibattuta anche se con evidenze sempre maggiori in termini di outcomes clinici e di pervietà dello stent nel corso del follow up. Caso clinico: Un Paziente di 68 anni si è presentato presso il nostro Pronto Soccorso dopo plurimi accessi in pronto soccorso per edema e dolore ingravescente associato a comparsa di ulcera necrotica dolente condizionante impossibilità a deambulare dell'arto inferiore sinistro. Sottoposto in altro centro ad esclusione di aneurisma ipogastrico rotto, del diametro di 9 cm, mediante posizionamento di endoprotesi nell'asse iliaco sinistro, previa occlusione dell'arteria ipogastrica mediante plug all'origine ed embolizzazione con spirali della sacca, dopo fallimentare tentativo di eseguire un trattamento branched dell'asse iliaco. Il paziente si presentava con polsi periferici presenti e flussi diretti sull'asse femoro-popliteo-tibiale. Pervietà del sistema venoso profondo femoro-iliaco-cavale con vena femorale comune sinistra marcatamente ectasica. Alla TAC si documentava completa esclusione della sacca aneurismatica, del diametro di 89 mm senza evidenza di endoleak e vena iliaca esterna sinistra marcatamente compressa. Si delinea un quadro clinico di insufficienza venosa cronica CEAP C6 con importante ipertensione venosa distale sostenuta da compressione iatrogena della vena iliaca sinistra dalla sacca aneurismatica trombizzata dell'arteria ipogastrica omolaterale. Si decideva per stenting della vena iliaca esterna sinistra con Wallstent 18x60mm previa flebografia e sizing con IVUS. Il paziente è stato dimesso con EBPM

a dosaggio terapeutico successivamente sostituito da Eliquis 5mg 1cpx2/die. Il controllo a 2 mesi, ha mostrato marcata riduzione dell'edema dell'arto con guarigione completa dell'ulcera. All'EcoColorDoppler si evidenziava la pervietà dello stent venoso in assenza di recoiling. Conclusione: Il trattamento con stenting, si è mostrato efficace, con rapida risoluzione della sindrome compressiva sull'asse venoso profondo iliaco, determinata da evento raro e mai riportata in letteratura.

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