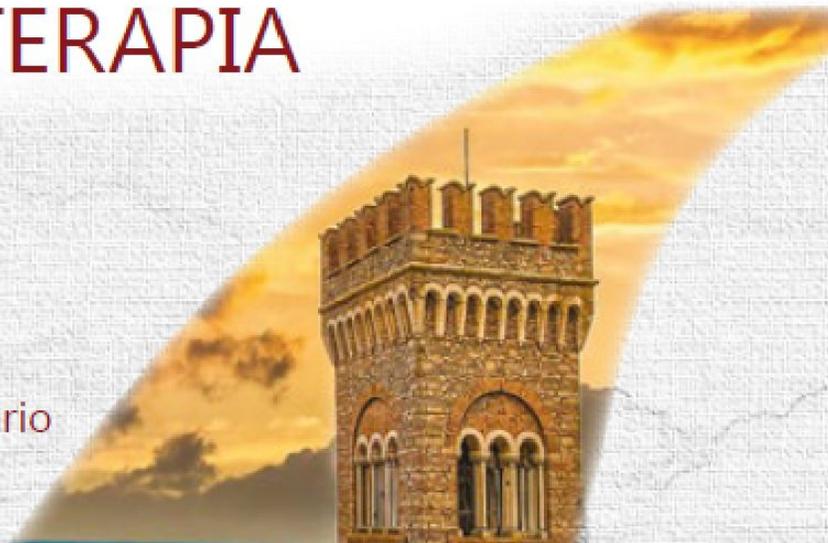


XXI CORSO NAZIONALE DI ULTRASONOLOGIA VASCOLARE DIAGNOSI E TERAPIA

Bertinoro,
20-22 aprile 2023
Centro Residenziale Universitario



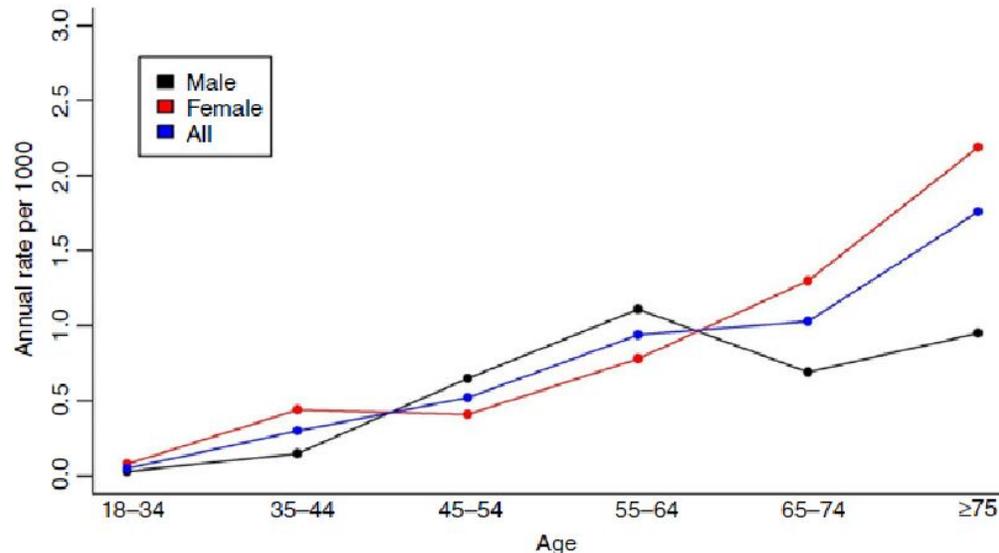
TVS : visualizzarla, classificarla e trattarla

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Annual diagnosis rate of superficial vein thrombosis of the lower limbs: the STEPH community-based study

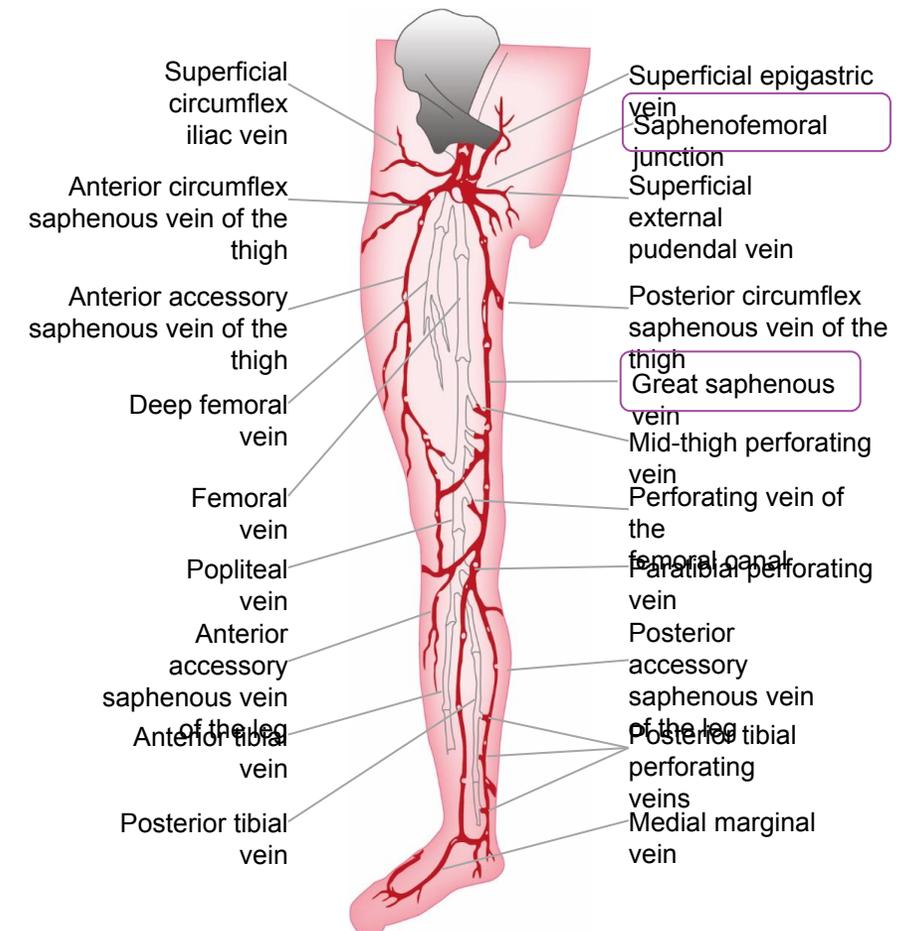
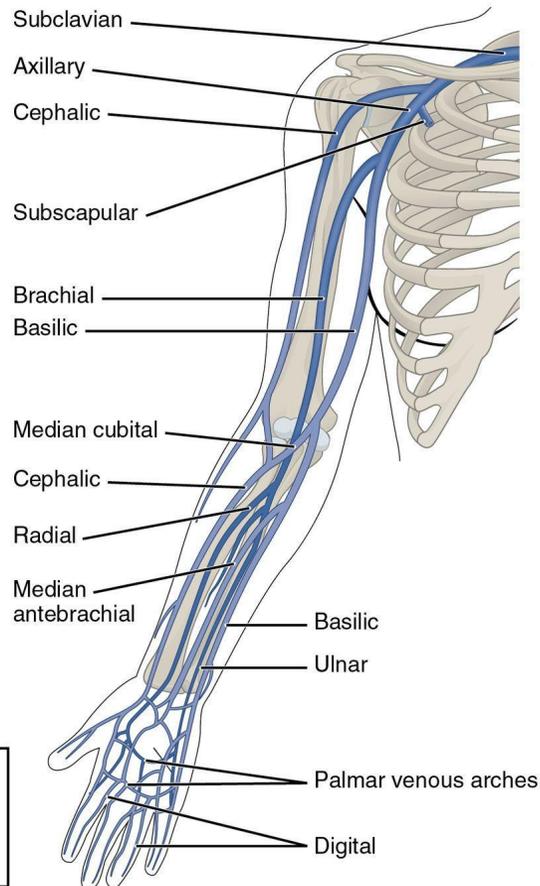


AGE (years)	18-34	35-44	45-54	55-64	65-74	≥75
Men						
Cases	1	3	13	22	9	12
Rate/1000 (95% CI)	0.03 (0.00,0.08)	0.15 (0.00,0.32)	0.65 (0.30,1.00)	1.11 (0.65,1.58)	0.69 (0.24,1.14)	0.95 (0.41,1.48)
Women						
Cases	3	9	9	17	21	52
Rate/1000 (95% CI)	0.08 (0.00,0.17)	0.44 (0.15,0.73)	0.41 (0.14,0.67)	0.78 (0.41,1.15)	1.30 (0.74,1.85)	2.19 (1.59,2.78)
Total						
Cases	4	12	22	39	30	64
Rate/1000 (95% CI)	0.05 (0.00,0.10)	0.30 (0.13,0.46)	0.52 (0.30,0.74)	0.94 (0.64,1.23)	1.03 (0.66,1.39)	1.76 (1.33,2.18)

Fig. 1. Annual diagnosis rates by age and sex (per 1000 residents).

journals and textbooks. ‘Superficial vein thrombosis’ (SVT) is currently the preferred term to indicate thrombosis of the superficial vein system; however, it encompasses many conditions indicated in the past, and even currently, such as the following: superficial phlebitis or superficial thrombophlebitis – inflammation of superficial veins without or with thrombosis; infusion thrombophlebitis – resulting from catheter insertion, venipuncture, or intravenous drug infusion; varicose vein thrombosis – thrombosis involving dilated, tortuous veins, usually in subcutaneous tissue of the legs; suppurative (septic) thrombophlebitis; a misnomer – superficial femoral vein thrombosis; and two eponyms, i.e. Mondor’s disease – thrombophlebitis involving the breast or the dorsal penile vein, and Trousseau’s syndrome – migratory thrombophlebitis associated with malignancy, particularly adenocarcinoma of the pancreas. These different terms are related to the different sites and etiologies of SVT.

Trombosi Venosa Superficiale: chi la vede ?



TVS condivide fattori di rischio simili a quelli per TVP

La TVS può essere idiopatica o associata a uno o più fattori di rischio

La maggior parte degli TVS si verifica nelle vene varicose



Immobilità



Ipercoagulabilità



Cancro



Viaggi
prolungati



Età



Gravidanza e
puerperio



Terapia a base
di estrogeni



Trauma (ad
esempio,
incannulazione
EV)



Storia di
TVP



Stati
post-operatori

Mortalità a 3 mesi : < 1% in TVS – 5 % in TVP – 9-17% in TEP

Trombosi Venosa Superficiale:sintomi e sede



Clinica

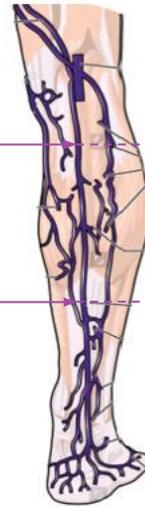
- Dolore localizzato
- Prurito
- Dolorabilità
- Cute calda ed eritematosa
- Cordone indurito palpabile lungo una vena superficiale

Vena safena lunga

65.8%³

Vena safena corta

17.1%³



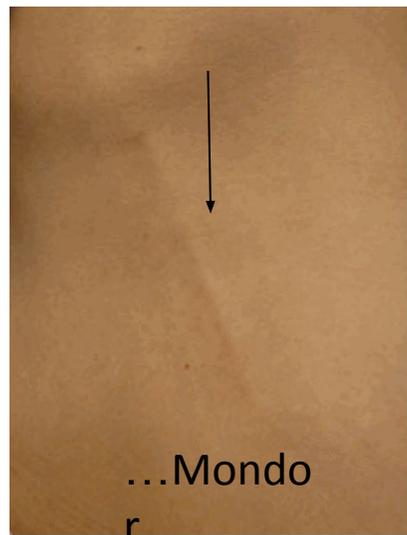
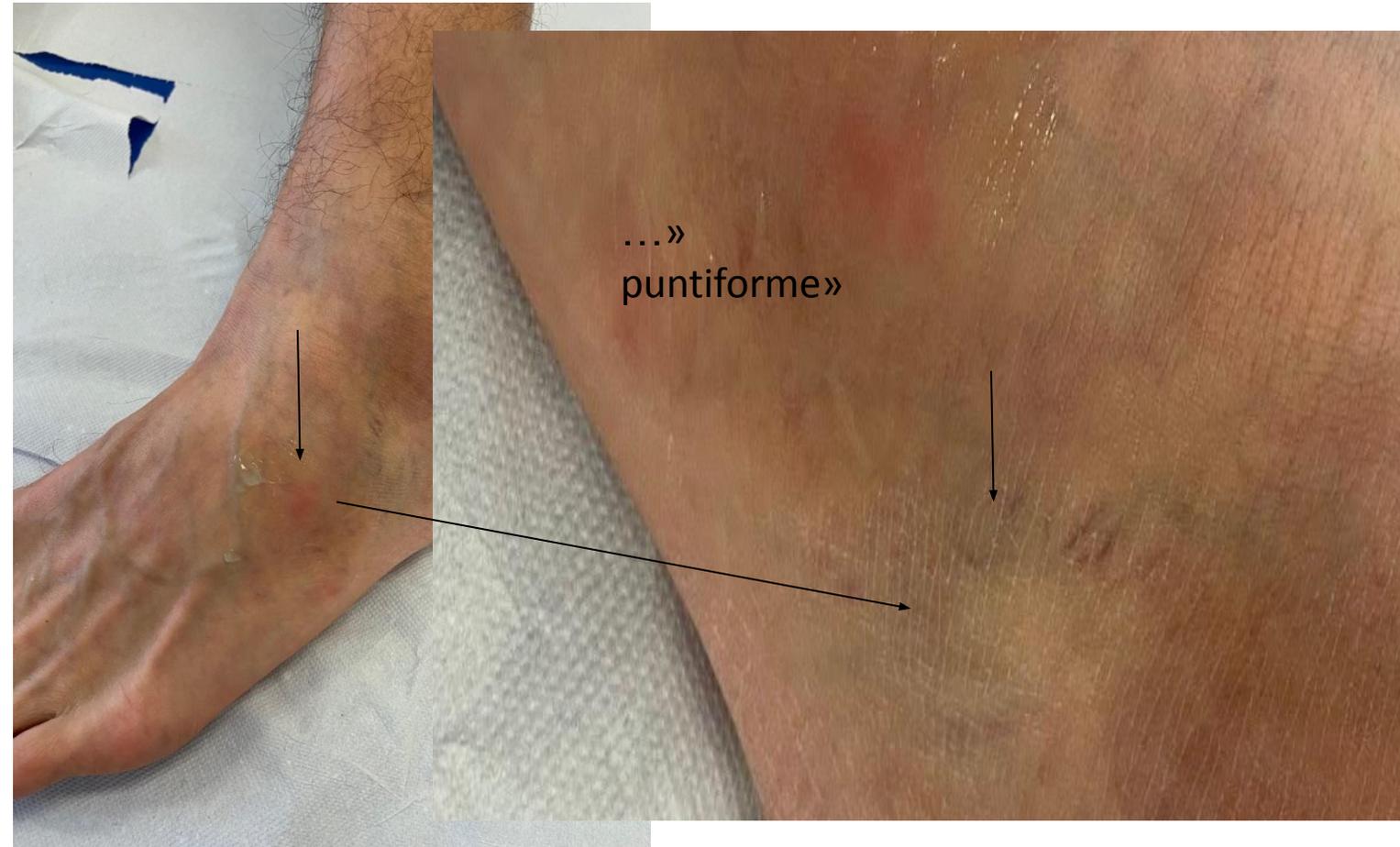
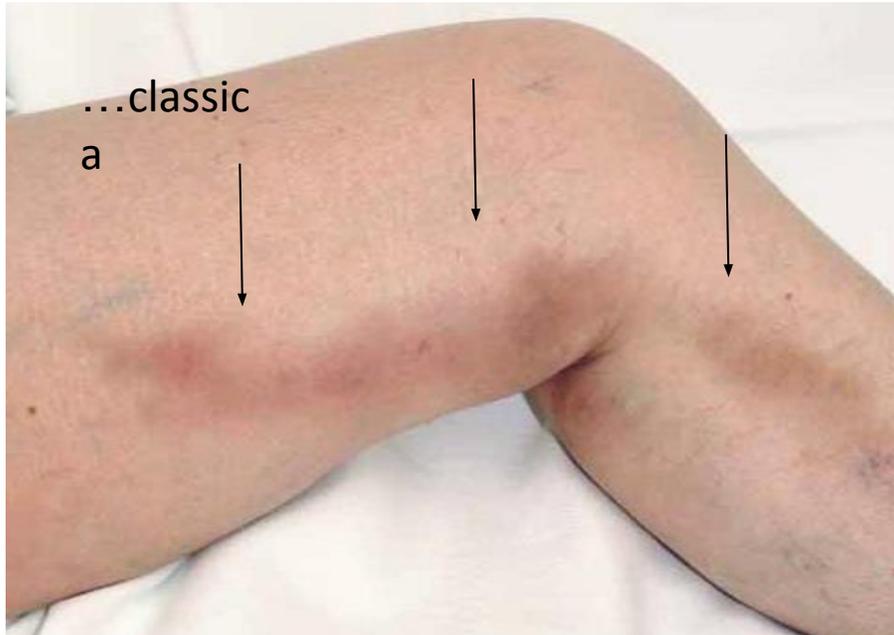
- La TVS può verificarsi nella maggior parte dei sistemi venosi superficiali del corpo
Più frequentemente diagnosticato nelle vene safene degli arti inferiori

Trombosi Venosa Superficiale: classificazione

TABELLA III. — *Classificazione delle TVS.*

	TVS SU VENA VARICOSA	Sede	Fattori predisponenti		Fattori scatenanti
		Grande safena, più raramente piccola safena o collaterali	Alterazioni strutturali endoteliali	Alterazioni dell'assetto emodinamico	Traumi, microtraumi, infezioni
T V S	TVS SU VENA SANA	Qualsiasi vena superficiale	Fattori determinanti		
			Alterazioni della bilancia coagulativa e fibrinolitica		TVS GRAVIDICHE
			Trombofilie congenite		TVS DA CONTRACCETTIVI
			Alterazioni strutturali o microstrutturali endoteliali		TVS PARANEOPLASTICHE (*)
					TVS DI BURGER (*)
					TVS DI BEÇHET
		TVS DI MONDOR			
(*) TVS rivelatrici					
	ALTRE (su vena sana o varicosa)	Sede			
		Prevalentemente arti inferiori o superiori			TVS POST-TRAUMATICHE
					TVS DA USTIONI
					TVS IATROGENE
	TVS SETTICHE				

Trombosi Venosa Superficiale: aspetti obiettivi



Perchè è importante la diagnosi strumentale?

Trombosi Venosa Superficiale: TVP e EP concomitanza al primo episodio di TVS

Study	POST [1,4]	OPTIMEV [2,4]	STEPH [3,4]
Setting	Secondary/tertiary	Secondary/tertiary	Primary
No. of SVT patients	844	788	171
Concomitant DVT or PE, %	24.9	29.4	26.3
Concomitant DVT*, %	23.5	28.8	24.6
Concomitant symptomatic PE, %	3.9	6.8	4.7

¼ dei pazienti

**40 to 50% are proximal DVT, 40 to 45% are non-contiguous to SVT*



Systematic research of PE symptoms and ultrasonography

1. Decousus H. et al. *Ann Intern Med* 2010; 152:218–24.
2. Galanaud JP. et al. *Thromb Hemost* 2011; 105:31–39.
3. Frappé P. et al. *J Thromb Hemost* 2014; 12:831–838.
4. Decousus H. et al. *J Thromb Haemost* 2015; 13 Suppl 1:S230–237.

DVT = deep vein thrombosis; PE = pulmonary embolism;
SVT = superficial vein thrombosis.

TVS nei pazienti con cancro

- **Type of Research:** A single-center, retrospective study of prospectively collected data
- **Key Findings:** In 276 patients with superficial vein thrombosis (SVT), the prevalence of cancer was 8.7%. Concurrent deep vein thrombosis and/or pulmonary embolism were found in 85 patients (30.8%). Cancer was the strongest determinant of this complication (odds ratio, 4.727; 95% confidence interval, 1.814-12.316). Thrombophilia was found in 34.8% of the patients and was the second most significant predictor of thromboembolic complications.
- **Take Home Message:** Patients with SVT and a known cancer have a greater risk of thromboembolic complications. Thrombophilia is common in those with SVT and also associated with a risk of concurrent deep vein thrombosis and/or pulmonary embolism.



Journal of Vascular Surgery: Venous and Lymphatic Disorders

Available online 2 June 2021

In Press, Corrected Proof



Prevalence of cancer in patients with superficial vein thrombosis and its clinical importance

Presented as an oral presentation at the Forty-fourth International Congress of the Czech Society of Angiology, Prague, Czech Republic, February 28 to March 2, 2019, and as a poster presentation at the International Society on Thrombosis and Haemostasis Congress, Melbourne, Victoria, Australia, June 6-10, 2019.

Jana Hirmerová MD, PhD ^{a, b} , Jitka Seidlerová MD, PhD ^{a, b}, Ivan Šubrt MD, PhD ^c, Zdeňka Hajšmanová MD ^d

Trombosi Venosa Superficiale isolata e rischio di TVP e EP sintomatica a 3-6 mesi

Study/setting	Treatment received	DVT, %	PE, %
STENOX 3 months, N = 427	LMWH for 12 days in 50%	2.8	0.7
VESALIO 3 months, N = 164	LMWH for 30 days in all	2.4	0.6
POST 3 months, N = 600	One or more anticoagulants in 90.5% (LMWH for a median of 11 days)	2.8	0.5
OPTIMEV 3 months, N = 499	Anticoagulants in 76.4% (for > 45 days in 24.6%)	0.6	0.6
CALISTO* 77 days, N = 1,500	Placebo (patients at high risk excluded)	1.3	0.4
STEFLEX 3 months, N = 648	LMWH for 10–30 days in all	3.1	0.3
Van Weert 6 months, N = 185	No treatment in 83%	2.7	0.5
Danish Registry 3 months, N = 10,973	No routine anticoagulant treatment	2.5	0.9

* **SVT without concomitant DVT or PE at first presentation.** DVT = deep vein thrombosis; LMWH = low-molecular-weight heparin;

PE = pulmonary embolism;

SVT = superficial vein thrombosis.

1. Decousus H. et al. *J Thromb Haemost* 2015; 13 Suppl 1:S230–237.

Trombosi Venosa Superficiale:diagnosi strumentale

- Sintomi apparentemente lievi possono indurre a trascurare i test oggettivi quando si diagnostica la TVS
L'ecografia entro 24 - 48 h può confermare l'estensione della TVS ed escludere una TVP concomitante

Cosa chiedere all'ECD	Note
Valutare le dimensioni del trombo	La clinica sottostima le dimensioni del trombo rispetto alla realtà anatomica
Valutare l'estensione del trombo	Possibile coinvolgimento delle vene profonde
Studiare tutto il sistema venoso	Possibile concomitante TVP di vene non contigue
Studiare le "giunzioni" e le valvole ostiali e periostiali	TVS estesa a 2-3 cm dalla giunzione safeno-femorale o safeno-poplitea: trattare come TVP
Studiare le caratteristiche morfo-strutturali del trombo	Trombo ipoecogeno = di probabile recente insorgenza
Studiare l'evoluzione anatomo-strutturale della TVS	Organizzazione o ricanalizzazione

La TVS nella vena safena maggiore entro 3 cm dalla giunzione safeno-femorale è considerata equivalente a una TVP

Trombosi Venosa Superficiale: diagnosi differenziale

Table 1 Dermatologic conditions in the differential diagnosis of superficial vein thrombosis

Erysipelas

Cellulitis

Lymphangitis

Chronic dermatitis

Lyme disease

Erythema nodosum

Cutaneous manifestations of immunologic or rheumatologic disorders

Trombosi Venosa Superficiale: esiste algoritmo diagnostico come per la TVP ?

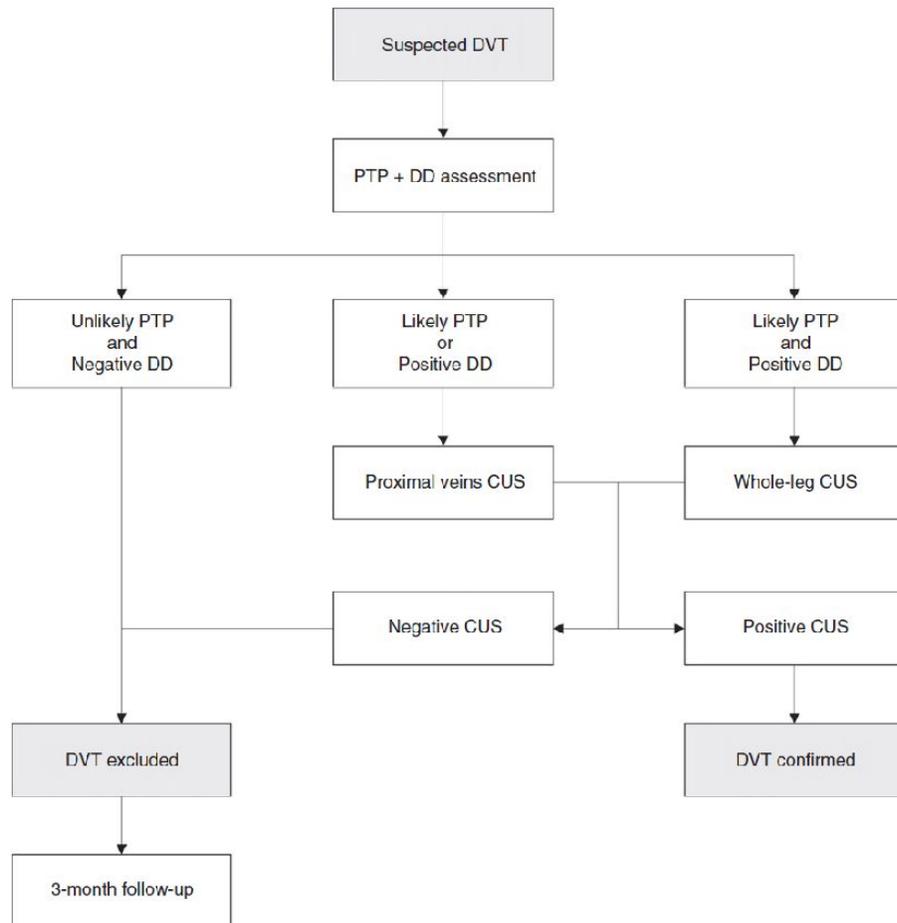


Fig. 1. Algorithm of the PALLADIO study. DVT, deep vein thrombosis; PTP, pretest probability; CUS, compression ultrasound; DD, D-dimer.

Agno W, Camporese G, Riva N, Iotti M, Bucherini E, Righini M, Kamphuisen PW, Verhamme P, Douketis JD, Tonello C, Prandoni P; PALLADIO Study Investigators. Analysis of an algorithm incorporating limited and whole-leg assessment of the deep venous system in symptomatic outpatients with suspected deep-vein thrombosis (PALLADIO): a prospective, multicentre, cohort study. *Lancet Haematol* 2015; 2: e474–80.

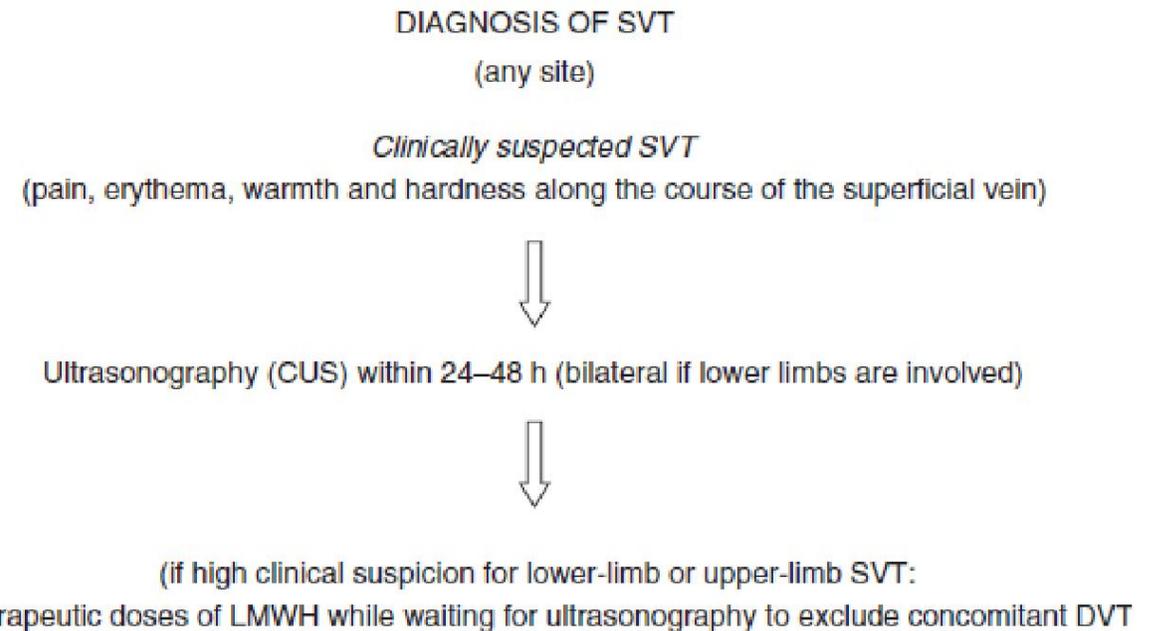


Fig. 2. Algorithm for the diagnosis of superficial vein thrombosis (SVT). CUS, compression ultrasonography; DVT, deep vein thrombosis; LMWH, low molecular weight heparin.

Trombosi Venosa Superficiale: trattamento

Spesso associato a dolore e mobilità ridotta



Il trattamento è necessario per alleviare i sintomi locali quando presenti ma necessario effetto protettivo sulla ricorrenza:

- ✓ Analgesici
FANS topici
- ✓ Eparina non frazionata
- ✓ EBPM (...2012)
- ✓ Fondaparinux (...2010)
- ✓ DOACS (...2017)

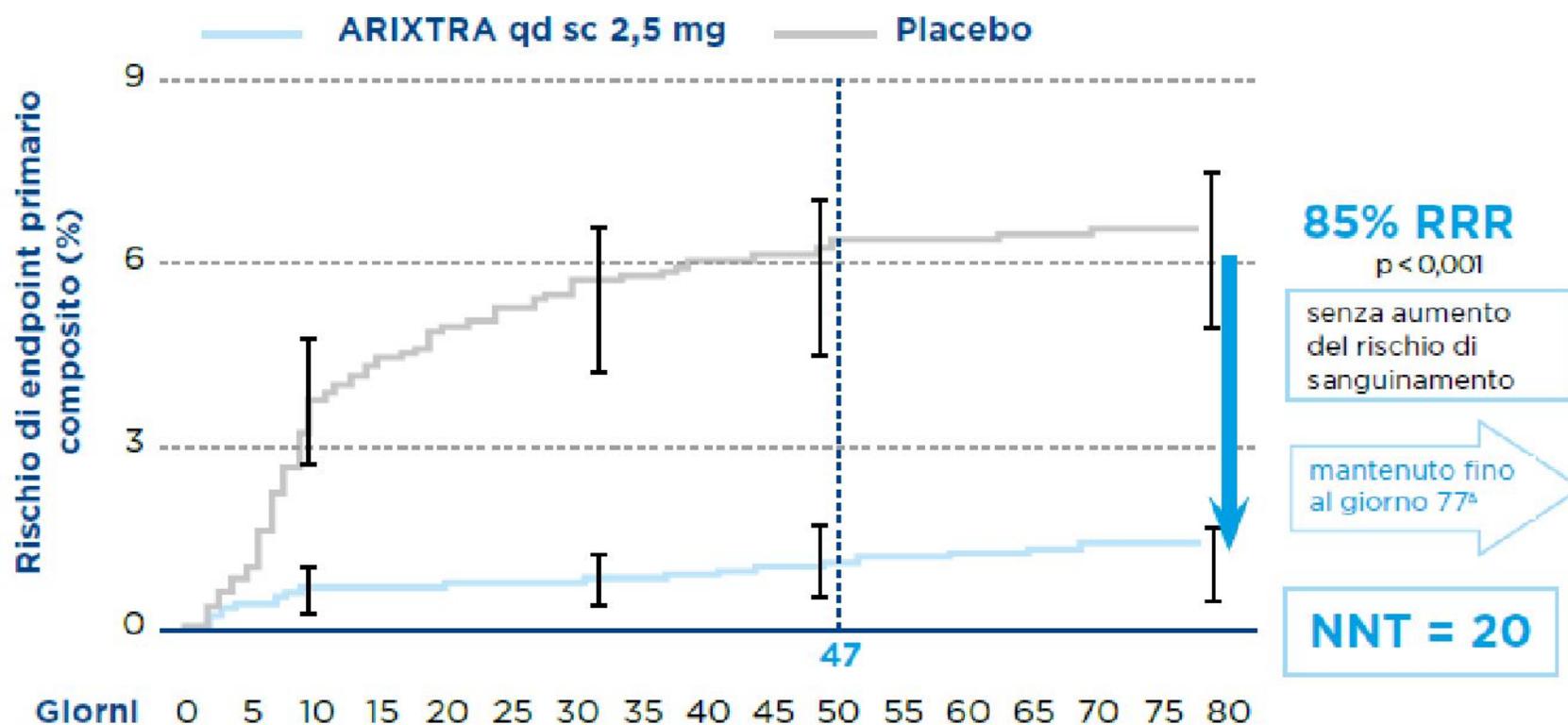
Tattamento non farmacologico:
- Calze a compressione



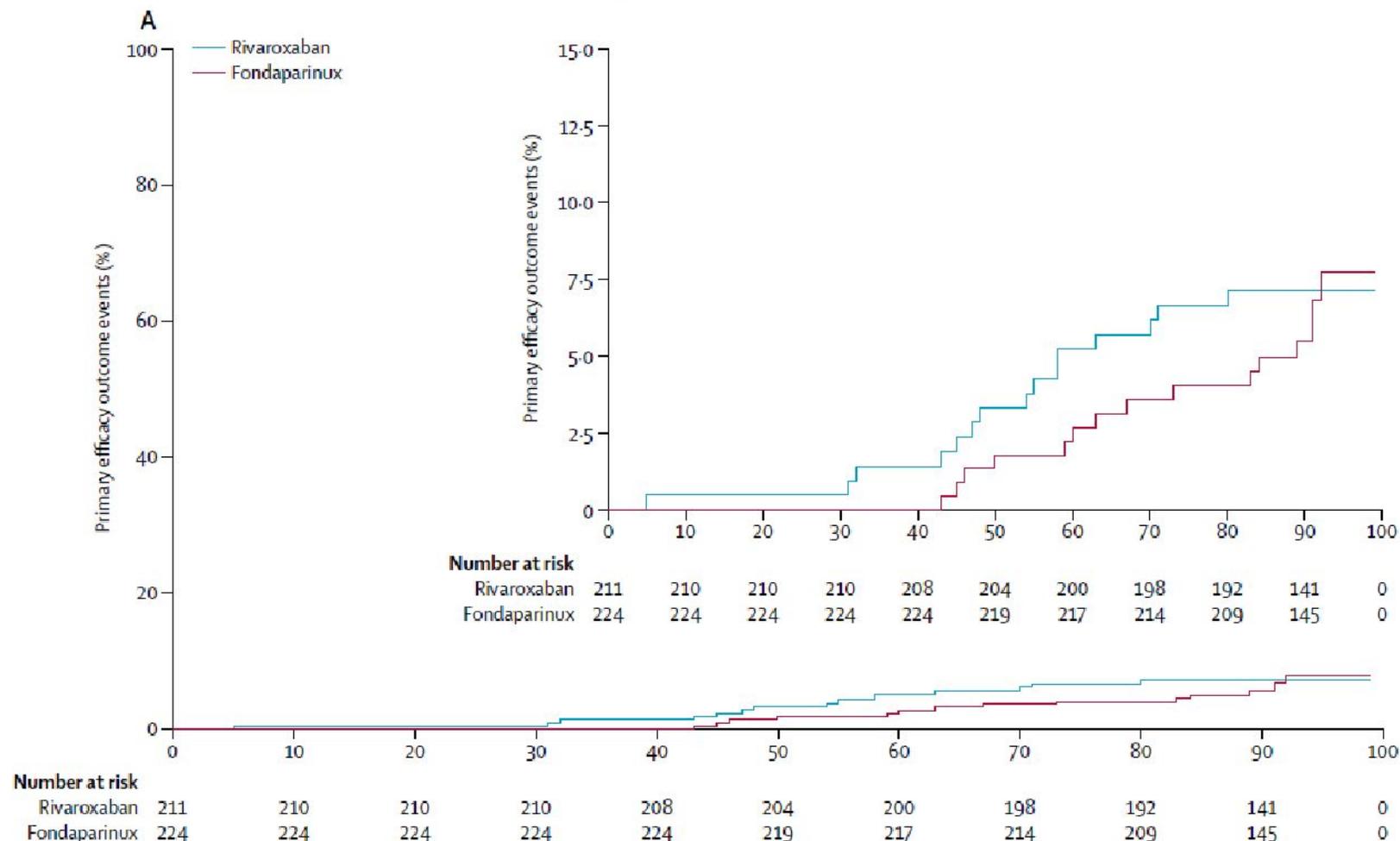
risultati dello studio CALISTO ⁵



risultati dello studio CALISTO ⁵



Prevention of thromboembolic complications in patients with superficial-vein thrombosis given rivaroxaban or fondaparinux: the open-label, randomised, non-inferiority SURPRISE phase 3b trial



	Rivaroxaban group (n=236)	Fondaparinux group (n=236)
Age (years)	61 (51-73)	61 (50-70)
Age (>65 years)	89 (38%)	87 (37%)
Men	100 (42%)	87 (37%)
Women	136 (58%)	149 (63%)
Previous DVT, PE, or SVT	117 (50%)	112 (48%)
Cancer	20 (9%)	25 (11%)
Autoimmune disease	3 (1%)	4 (2%)
Involvement of non-varicose veins	66 (28%)	76 (32%)
Number of risk factors at baseline	2 (1-2)	1 (1-2)
BMI (kg/m ²)	28.7 (25.8-33.0)	29.0 (25.8-33.4)
Use of systemic non-steroidal anti-inflammatory drugs	24 (10%)	22 (9%)
Treatment duration (days)	45 (44-46)	45 (44-46)
Duration of follow-up (days)	92 (90-94)	91 (90-93)

Data are median (IQR) or n (%). DVT=deep-vein thrombosis. PE=pulmonary embolism. SVT=superficial-vein thrombosis.

Table 1: Demographic and clinical characteristics of the patients

Guidance statements:

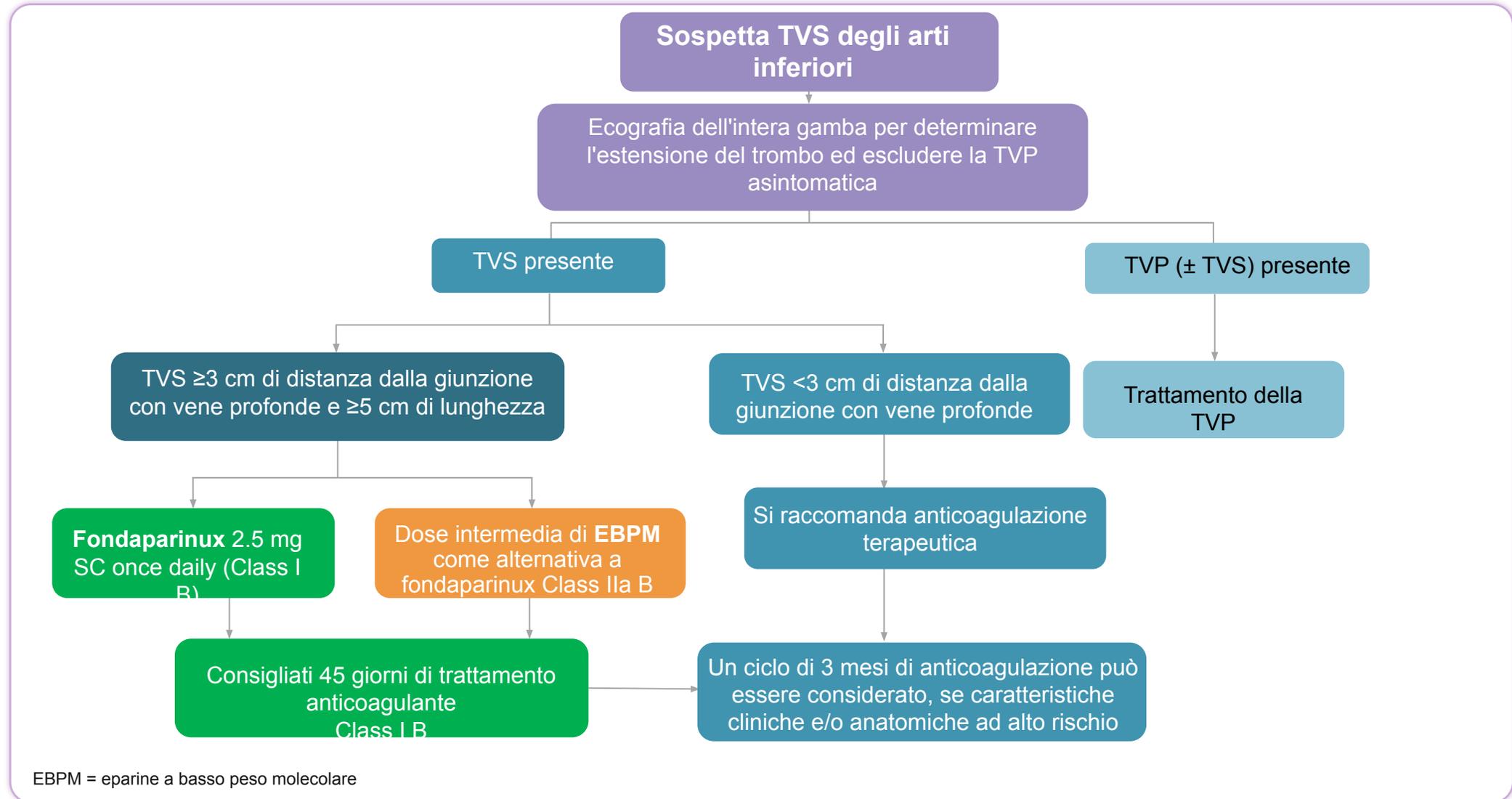
- ✓ Nei pazienti con trombosi venosa superficiale (TVS) dell'arto inferiore ad aumentato rischio di progressione del coagulo verso TVP o EP (vedi testo), suggeriamo **l'uso di anticoagulanti per 45 giorni** rispetto ad assenza di anticoagulazione

Factors that favor the use of anticoagulant therapy in patients with SVT include the following:

1. Extensive SVT
2. Involvement above the knee, particularly if close to the saphenofemoral junction
3. Severe symptoms
4. Involvement of the greater saphenous vein
5. History of VTE or SVT
6. Active cancer
7. Recent surgery

- ✓ Nei pazienti con TVS trattati con anticoagulazione, suggeriamo **fondaparinux 2,5 mg al giorno** rispetto ad altri regimi di trattamento anticoagulante come la dose (profilattica o terapeutica) di EBPM
- ✓ Nei pazienti con TVS che rifiutano o non sono in grado di utilizzare l'anticoagulazione parenterale, suggeriamo rivaroxaban 10 mg al giorno come alternativa ragionevole per fondaparinux 2,5 mg al giorno

Linee guida della Società Europea di Chirurgia Vascolare 2021 per la gestione della TVS



Trombosi Venosa Superficiale: trattamento «in pillole»

TREATMENT OF SVT OF THE LOWER LIMBS

1- *Low-risk SVT* * §:
thrombus length < 4–5 cm and
> 3 cm from saphenofemoral/saphenopopliteal junction



(topical or oral) NSAIDs for 8–12 days

2- *Intermediate-risk SVT* ** §:
thrombus length > 4–5 cm and
> 3 cm from saphenofemoral/saphenopopliteal junction



Fondaparinux 2.5 mg daily for 45 days or
intermediate/therapeutic dose LMWH for 4–6 weeks

3-*High risk SVT* §:
thrombus < 3 cm from saphenofemoral junction
(possibly also saphenopopliteal junction)



Therapeutic anticoagulation as for DVT
Vitamin K antagonists (possibly NOAC) for 3 months

(if varicose veins, graduated compression elastic stockings in all cases,
unless contraindicated)

* Previous SVT/VTE and absence of varicose veins may indicate treatment as for intermediate-risk SVT.

** Previous SVT/VTE or a family history of SVT/VTE and absence of varicose veins may suggest a longer course (6 weeks) of intermediate/therapeutic-dose LMWH.

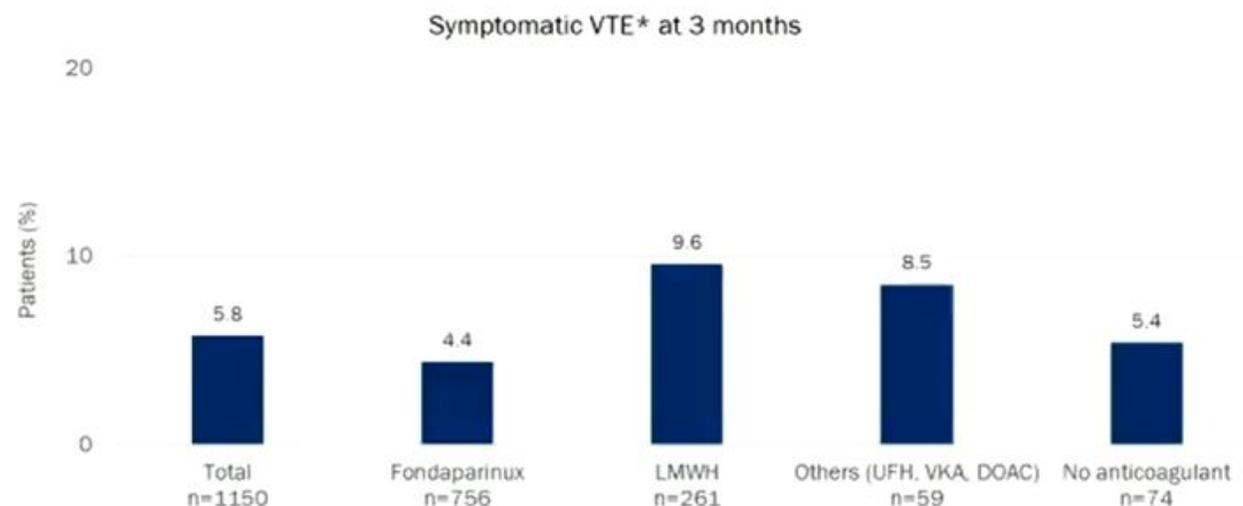
§ Presence of active cancer may suggest long-term treatment, possibly with prophylactic-dose LMWH, after the first month of intermediate/therapeutic-dose LMWH.

Long-term outcomes of superficial vein thrombosis in daily practice: 12-month data from the INSIGHTS-SVT study

Rabe E, Hoffmann U, Schimke A, Heinken A, Langer F, Noppeney T, Pittrow D, Klotsche J, Gerlach H, Bauersachs R

On behalf of the INSIGHTS Investigators

Primary efficacy outcome^{1,*} (3 months)



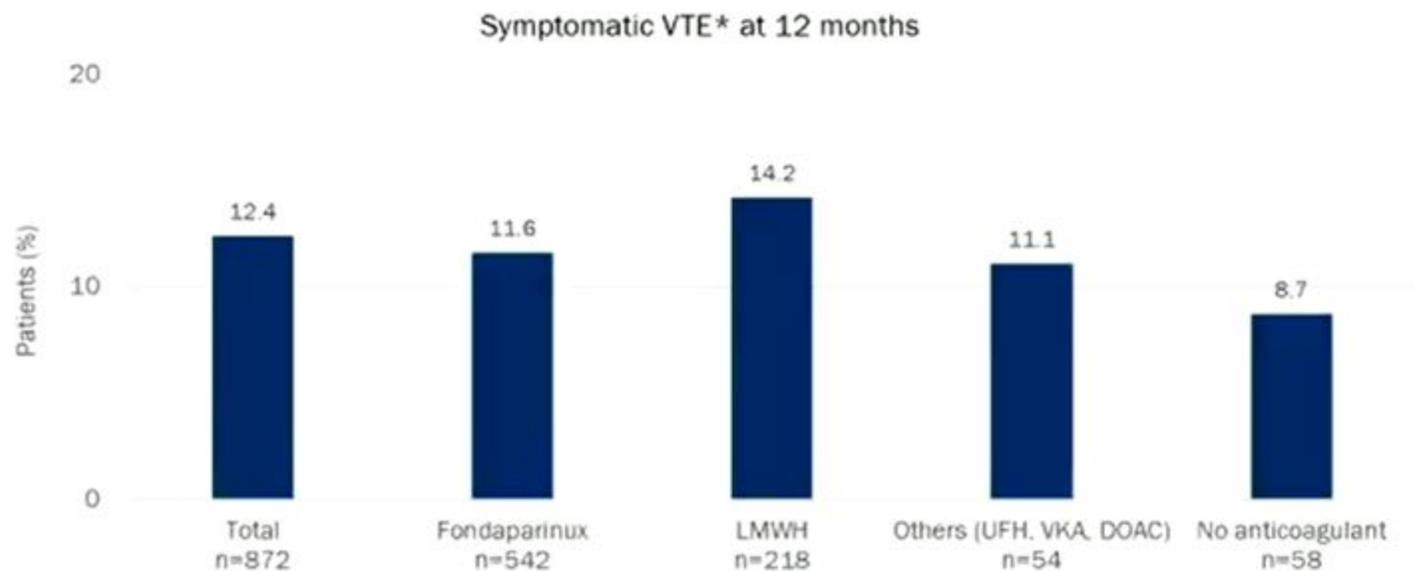
➤ At 3 months of follow-up, the primary efficacy outcome had occurred in 67 (5.8%) patients.

Baseline characteristics

	Total n=1159 (100%)	Patients with 12- months follow-up examination n=872	p value
Mean age, years (sd); median	60.2 (14.7); 61	60.6 (14.5); 61	0.074
Women, n (%)	752 (64.9%)	562 (64.5%)	0.590
Mean body mass index, kg/m ² (sd); median	29.4 (6.3); 28.3	29.4 (6.3); 28.3	0.788
Chronic, dispositional risk factors for VTE, n (%)			
Varicose veins	876 (75.6%)	666 (76.4%)	0.273
History of thrombosis			
SVT	349 (30.1%)	278 (31.9%)	0.022
DVT or PE	178 (15.4%)	148 (17.0%)	0.008
VTE (SVT, DVT or PE)	453 (39.1%)	365 (41.9%)	0.001
Family history of DVT or PE	186 (16.1%)	145 (16.6%)	0.348
CVI/ulceration	560 (48.3%)	434 (49.8%)	0.084
Cancer	81 (7.0%)	63 (7.2%)	0.583
Known thrombophilia	57 (4.9%)	50 (5.7%)	0.025
Hormone replacement therapy	18 (1.6%)	14 (1.6%)	0.801
Oral contraception	84 (11.2%)	65 (11.6%)	0.554

1. Bauersachs R et al. Eur J Vasc Endovasc Surg 2021; 62:241-249; *Composite of DVT, PE, recurrent or extending SVT

Efficacy outcome* (12 months)



› At 12 months of follow-up, the primary efficacy outcome had occurred in 108 (12.4%) patients.

*Composite of DVT, PE, recurrent or extending SVT; Analyses of VTE outcome were performed by considering the outcome in the time frame baseline to 12 months (cumulative)

Conclusions

- › Isolated SVT is a common condition, but understudied; scarce evidence compared to DVT/PE.
- › While the more events occurred within 3 months, a substantial proportion of symptomatic VTE occurred later and the risk remained elevated up to 12 months.
- › Risk factors for symptomatic events:
 - Younger age, BMI, previous SVT, DVT, PE and the extension of the thrombus
- › Associated with “late events”, i.e. those between 3 months and 12 months:
 - BMI, previous VTE, SVT in the saphenous veins, major surgery, severe systemic infection at entry
- › Thus, prolonged rather than short-term anticoagulation therapy should be considered in patients with risk factors.

Trombosi Venosa Superficiale: trattamento «non codificato»

- TVS e cancro (quale farmaco ? per quanto tempo ?)
- TVS e gravidanza (quale farmaco ? Per quanto tempo ?)
- TVS ricorrente (quale farmaco ? Per quanto tempo ?)
- TVS in patologia immunomediata (quale farmaco ? Per quanto tempo ?)
- TVS e end point «ricanalizzazione» (quale farmaco ? Per quanto tempo ?)