Superficial Vein Thrombosis

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Outline

Patient Background

Disease State

Supporting Study

Patient Treatment

Pharmacy Recommendations

Patient Background

CC: left leg pain and erythema.

HPI: 51 yo white male with PMH of Crohn's, GERD, migratory polyarthritis, migraines, and lower back pain presents with LLE pain for 2 weeks. Patient denies any Hx of blood clots, recent travel, trauma to the legs, animal bites or scratches to the legs.

ROS: negative for unintentional weight loss, fevers or chills, chest pain/tightness/discomfort, dyspnea, abdominal pain, diarrhea/constipation, bloody or melenic BMs, unusual changes to UO, dysuria, hematuria, or focal neurologic symptoms

FMH: Father died from a blood clot.

Patient Vitals, Labs, Outpt Meds

Temp	HR	RR	BP	191 lbs
98.5	83	16	129/86	(86.8kg)

Labs

NA	K	Cl	CO_2	BUN	Cr	Glu
141	4.0	102	26	18	0.90	173 H

Active Outpatient Meds

- Mesalamine 500mg 2 caps BID
- Prednisone 10mg, 1 tab daily x 2-3 weeks, then taper

Patient Assessment

DDx for DVT cause in relatively healthy active male:

- Malignancy
- Buerger's – disease or arteries and veins
- Factor 5 Leiden – genetically inherited, hypercoagulability
- Other thrombotic cause

Superficial Thromobophlebitis

Superficial Thrombophlebitis (SVT)

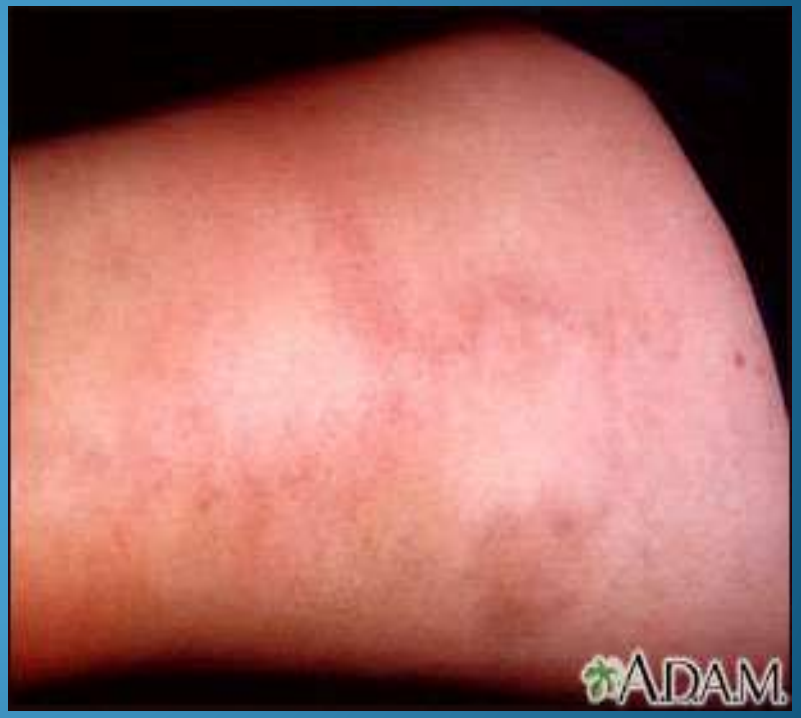
Vein inflammation

Usually affects lower limb

Often involving a varicose vein

Symptoms

- Redness, tenderness, pain
- Warmth of the area



http://www.nlm.nih.gov/medlineplus/ency/imagepages/3005.htm

Kearon C et al. Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. CHEST 2012; 141(2)(Suppl):e419S–e494S

Characteristics and Risk Factors

Female proportion between 55-70%

Mean Age approx 60 years old

Risk factors similar to venous thromboembolism

- Varicose veins, inherited and acquired conditions, autoimmune diseases, hormonal replacement therapy
- pregnancy; obesity; prolonged immobilization
- Recent surgery; trauma; sclerotherapy; history VTE
- drugs (e.g., diazepam, amiodarone, vancomycin, heroin)

Marchiori A, Mosena L, Prandoni P. Superficial vein thrombosis: risk factors, diagnosis, and treatment. Semin Thromb Hemost. 2006;32(7):737-43.

Consequence of SVT

A prospective study of 844 patients, acute SVT ≥ 5 cm:

- 4% with symptomatic pulmonary embolism,
- 10% proximal deep vein thrombosis (DVT)
- 13% distal DVT

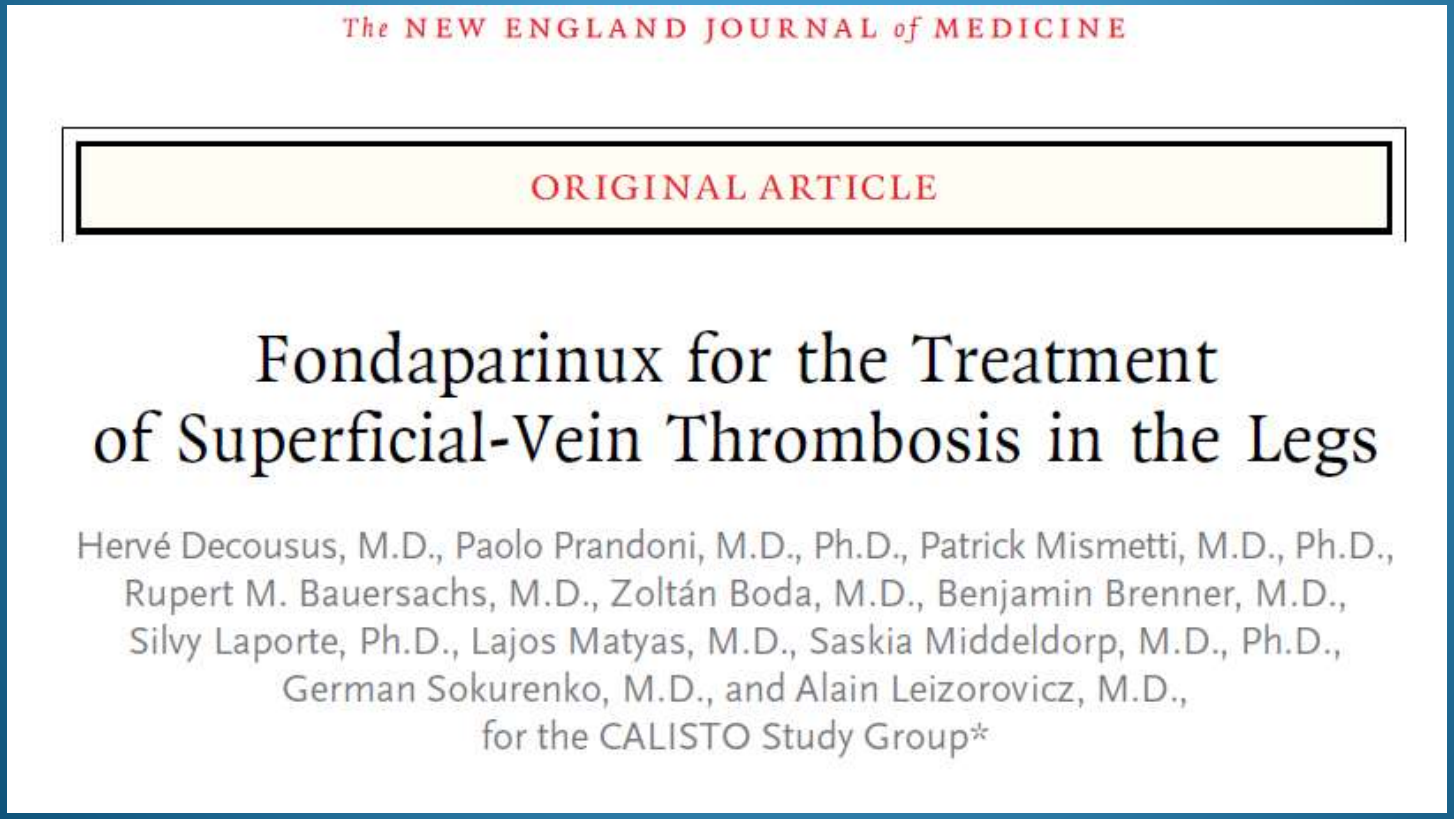
Without VTE at presentation, despite 90% treated

- 3.1% developed symptomatic VTE
- 1.9% had recurrent VTE
- 3.3% had extension of the VTE (same location)

CHEST 2012

Treatment of SVT

Based on CALISTO study , guidelines recommend 2.5 mg fondaparinux for 45 days (Grade 2B)



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Fondaparinux for the Treatment of Superficial-Vein Thrombosis in the Legs

Hervé Decousus, M.D., Paolo Prandoni, M.D., Ph.D., Patrick Mismetti, M.D., Ph.D., Rupert M. Bauersachs, M.D., Zoltán Boda, M.D., Benjamin Brenner, M.D., Silvy Laporte, Ph.D., Lajos Matyas, M.D., Saskia Middeldorp, M.D., Ph.D., German Sokurenko, M.D., and Alain Leizorovicz, M.D., for the CALISTO Study Group*

Decousus H, Prandoni P, Mismetti P, et al. Fondaparinux for the treatment of superficial-vein thrombosis in the legs. N Engl J Med. 2010;363(13):1222-32.

Comparison of Arixtra in Lower Limb Superficial Vein Thrombosis (CALISTO) Trial

- Randomized , double blind, placebo-controlled trial of 3002 patients with SVT ≥ 5 cm in length
- Treatments for 45 days of either

  - fondaparinux 2.5mg daily (1502 patients)

  or

  - placebo (1500 patients)
- Primary outcome: death, symptomatic PE, symptomatic DVT, or symptomatic extension, symptomatic recurrence

N Engl J Med. 2010;363(13):1222-32

Baseline Characteristics

Table 1. Baseline Characteristics of the Study Patients.*

Characteristic	Fondaparinux (N=1502)	Placebo (N=1500)	P Value†
Age — yr	57.1±13.3	56.9±13.6	0.69
Female sex — no. (%)	974 (64.8)	944 (62.9)	0.29
Body-mass index‡			
Mean	29.2±5.2	29.0±5.4	0.32
≥30 — no. (%)	574 (38.2)	536 (35.7)	0.16
Medical conditions — no. (%)			
Varicose veins	1331 (88.6)	1329 (88.6)	1.00
Previous superficial-vein thrombosis	178 (11.9)	178 (11.9)	1.00
Previous deep-vein thrombosis or pulmonary embolism	105 (7.0)	104 (6.9)	1.00
Cardiovascular disease§	71 (4.7)	66 (4.4)	0.73

N Engl J Med. 2010;363(13):1222-32

Results

Fondaparinux 2.5mg per day x 45 days

- 5% absolute risk reduction
- 85% reduction of symptomatic thromboembolic complications or death
- Statistically and clinically significant reductions in risk of primary efficacy outcome (death, symptomatic PE, symptomatic DVT, symptomatic extension, or symptomatic recurrence)

N Engl J Med. 2010;363(13):1222-32

Results

Placebo

Thrombotic complications occurred more often if

- SVT involved the greater saphenous vein (92% patients in control group)
- Extended to within 10 cm from the saphenofemoral junction (9% of patients)
- Involved veins above the knee (46% of patients)
- If VTE (7% of patients) or SVT (12% of patients) had occurred previously.

N Engl J Med. 2010;363(13):1222-32

Results

Number need to treat (NNT) to prevent one primary efficacy outcome. **NNT = 20**

Recall primary outcome: death symptomatic PE, symptomatic DVT, symptomatic extension, or symptomatic recurrence

NNT = 80, to prevent DVT or PE

N Engl J Med. 2010;363(13):1222-32

Additional Treatments

- Graduated compressions stockings (83% in CALISTO)
- Topical NSAIDs may reduce symptoms

CALISTO - Strengths/Limitations

Strengths

- Patients representative of what is seen in general clinics
- First randomized trial to address optimal dose and duration

Limitations

- Primary efficacy outcomes giving equal weight
- Not an active comparator
- Fondaparinux not cost effective $500,000 per QALY gained
- 45 day course treatment is not common and therefore may not be used in a clinical setting
- Majority of patients in study were women, different demographic than VA

Patient – Day 1

Diagnosed with SVT

- Initiated PO enoxaparin 40mg daily QHS
- Initiated empiric Abx therapy
  - vancomycin 1250mg Q12hrs
  - and ceftriaxone 1g Q24hrs
- Warm compress, NSAIDs, ambulating 3x daily

Patient – Day 2

- Continued enoxaparin 40mg daily
- Continued empiric Abx therapy
  - vancomycin 1250mg Q12hrs
  - and ceftriaxone 1g Q24hrs
- Continued IBU 200mg Q6hrs PRN for pain

Patient – Day 3 (Discharge)

- Continued enoxaparin 40mg for 30 days

  - CHEST Guidelines recommend fondaparinux 2.5mg or prophylactic dose of LWMH for 45 days.

  - MD abbreviated course for compliance
- Negative cultures - discontinued Abx
- New medication - diclofenac gel for pain

Cause of Patient's SVT

Hx of Crohn's disease

Multiple biopsies with last colonoscopy on 5/2014

Hypercoagulability from malignancy may be the origin

Pharmacist's Role with the Medical Team

Discuss with clinical team guideline recommendations along with supporting studies

Duration of treatment

- 30 day vs 45 day treatment.
- 2 largest studies evaluating LMWH
  - Suggest that 30 day treatment is too short
  - Most symptomatic thromboembolic complications occurring after treatment period.

Pharmacist's Role with the Patient

Educate patients on:

- Dosing and administration of enoxaparin
- Signs and symptoms of bleeding
- Assess patient understanding via **teach back method**
- common SE: nausea, diarrhea, fever, injxn irritation

References

- Marchiori A, Mosena L, Prandoni P. Superficial vein thrombosis: risk factors, diagnosis, and treatment. Semin Thromb Hemost. 2006;32(7):737-43.
- Kearon C et al. Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. CHEST 2012; 141(2)(Suppl):e419S–e494S
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