Superficial Vein Thrombosis

Outline
- Epidemiology
- Clinical Presentation
- Diagnosis
- Treatment
  - Medical
  - Surgical
  - Topical
  - Clinical trials

Epidemiology
- More common than DVT 1:1000
- Estimated 3 to 8% of the general population
- Risk factors: varicose veins, immobilization, trauma, surgery, pregnancy and post-partum, hormonal contraception or replacement therapy, increasing age, obesity, history of VTE, malignancy, autoimmune disease, thrombophilia, IV catheter
- Females > Males

Clinical Presentation
- Varicose veins
- Traumatic
- Septic and Suppurative
- Migratory
- Mondor’s Disease
- Small saphenous
- Upper extremity
- Post endovascular vein treatment

Varicose vein SVT
- Most common risk factor for SVT
- Lower risk of progression to DVT
- May be precipitated by trauma
- Tender nodules
- Localized induration
- More common after foam sclera vs. thermal ablation

Disclosure
- No relevant disclosures
**Traumatic SVT**

- Infusion therapy
- Direct endothelial injury of irritating solutions
- Pain, tenderness and erythema at catheter insertion
- Vein may contract rather than recanalize

**Septic thrombophlebitis**

- IV lines with septicemia
- Leukocytosis
- Intense pain
- Staph aureus, Pseudomonas, Klebsiella, Candida
- Removal of catheter; IV antibiotics
- Excision of vein in rare cases

**Mondor’s disease**

- Thoracoepigastric vein of the breast/chest wall
- Breast carcinoma or hypercoagulable states
- Benign and self limited
- NSAIDs

**Great/Small Saphenous Vein SVT**

- Can progress to common femoral or popliteal DVT
- Similar morbidity with GSV or SSV SVT

**Upper extremity IV line related SVT**

- Caustic substance with direct injury to endothelium
- Basilic or cephalic veins
- Rare progression to DVT
- Catheter removal, occasional anticoagulation

**Diagnosis**

- Compression ultrasound
Goals of Treatment

- Reduce or ameliorate symptoms
- Prevent progression to DVT
- Prevent PE
- Prevent recurrence/QOL

Treatment Options:
- Topical
- Pharmacological systemic: Anticoagulation, NSAID
- Surgical

SVT TREATMENT

Treatment differs depending upon whether the thrombosis affects the tributaries (superficial thrombophlebitis) or axial veins (ie, great or small saphenous veins) indicative of superficial vein thrombosis (SVT), and whether or not there are complications.

Approach to treatment — Treatment of superficial phlebitis is primarily aimed at alleviating symptoms and preventing propagation of thrombus into the deep venous system.

Uncomplicated — Initial management of uncomplicated thrombophlebitis and less extensive SVT (ie, affected vein segment ≥5 cm, remote from saphenofemoral/saphenopopliteal junction, no medical risk factors) is supportive and consists of extremity elevation, cool compresses, nonsteroidal anti-inflammatory drugs (NSAIDs), and possibly compression therapy. The patient should be encouraged to remain ambulatory if possible. Antibiotic treatment is not indicated in the absence of signs of infection (eg, high fever, purulent drainage).

Anticoagulation is suggested for patients with more extensive superficial thrombophlebitis, particularly those with SVT propagating the deep venous system, or in patients with co-morbidities, because of a higher risk for developing a deep vein thrombosis (DVT). Topical and systemic anticoagulation are appropriate in cases of complications such as propagation of thrombus to the deep venous system. Anticoagulation should be individualized; either anticoagulation or serial duplex ultrasound may be appropriate.

An exception is needed for anticoagulation in patients with superficial vein thrombosis following endovenous ablation therapy. The natural history of endovenous heat-induced thrombus (EHIT) appears to be more benign than spontaneous thrombus with less of a propensity for embolization.

Anticoagulation therapy is generally managed conservatively. (See “Management of superficial venous disease” and “Anticoagulation” below.)

LMWH vs. NSAID for Prevention of VTE

<table>
<thead>
<tr>
<th>Study</th>
<th>Patients</th>
<th>Intervention</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titon 1994</td>
<td>117 RCT</td>
<td>Nadro 6150 IU + compress</td>
<td>2.6% STP, No DVT/PE, 2.6% STP, No DVT/PE</td>
</tr>
<tr>
<td>STENOX 2003</td>
<td>436 RCT</td>
<td>Enox 40 qd + compress</td>
<td>0.9/8.3% DVT/STP, 0 PE</td>
</tr>
<tr>
<td>Vesalio 2005</td>
<td>164 RCT</td>
<td>Nadroparin 2850</td>
<td>0.9/5.7% DVT/STP, 0 PE</td>
</tr>
<tr>
<td>STENOX 2003</td>
<td>436 RCT</td>
<td>Enox 1.5mg/kg + compress</td>
<td>2.0/13.1% DVT/STP, 3 PE</td>
</tr>
<tr>
<td>Vesalio 2005</td>
<td>164 RCT</td>
<td>Placebo</td>
<td>3.6/29.5% DVT/STP, 0 PE</td>
</tr>
</tbody>
</table>

Anticoagulation

- LMWH
- - Titon
- - VESALIO
- - CALISTO
- - STEFLUX
- LMWH vs. NSAID
- - STENOX
- - Rathbun

Up to Date Sept 29, 2015


**Major findings**

- LMWH and NSAIDs reduced the incidence of extension or recurrence of SVT but no effect on VTE
- Topical treatments relieved local symptoms but trials did not report progression to VTE
- Surgical treatments and wearing elastic stockings were associated with lower VTE and VTE compared to stockings alone
- Methodological quality of the 30 studies assessed was poor overall.
- No differences in major bleeding but NSAID with increased gastrointestinal side effects

**Calisto**

- Double-blind RCT
- 3002 received either fondaparinux (2.5mg/day) or placebo X 45 days
- Primary efficacy outcome: composite of death from any cause or symptomatic pulmonary embolism, symptomatic deep-vein thrombosis, or symptomatic, extension to the saphenofemoral junction or symptomatic recurrence of STP at day 47
- Main safety outcome - major bleeding
- Follow up to day 77
The objective of this study was to assess the efficacy, safety, and cost of low-molecular-weight heparin compared to saphenofemoral disconnection for the treatment of internal saphenous proximal thrombophlebitis (SPT). Eighty-four consecutive patients diagnosed as presenting SPT alone (symptoms/echo-Doppler) were divided into 2 comparable groups treated with (1) saphenofemoral disconnection under local anesthesia with a short hospital stay (n=45) or (2) prospective enoxaparin on an outpatient basis for 4 weeks (n=39). Informed consent was obtained and inclusion, exclusion, and withdrawal criteria were established. Patients were followed up at 1, 3, and 6 months. Thirty patients per group completed the study requirements. In the saphenofemoral disconnection group, 2 patients (6.7%) presented complications of the surgical wound, 1 (3.3%) had SPT recurrence (however, there was no deep venous thrombosis), and 2 (6.7%) had nonfatal pulmonary embolism confirmed by radionuclide scan. In the enoxaparin group, there were 2 cases (6.7%) of minor bleeding (epistaxis and rectal bleeding) and 3 (10%) recurrences of SPT. In the enoxaparin group there was no case of progression of the thrombosis to the deep venous system or pulmonary embolism. The study found no statistically significant difference between saphenofemoral disconnection and enoxaparin in the treatment of SPT, but the low-molecular-weight heparin group had socioeconomic advantages.
Efficacy and Tolerability of Hirudoid Cream in Prophylaxis and Treatment Infusion Phlebitis

This study is currently recruiting participants. (see Contacts and Locations)

Sponsor:
Medinova AG

Information provided by (Responsible Party):
Medinova AG

ClinicalTrials.gov Identifier:
NCT01943006

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Last updated: September 23, 2015
Last verified: September 2015

History of Changes

LMWH or NSAID effective for reducing pain and extension/VTE but risk stratification model not available

Compression alone not effective for preventing extension

Surgery provides symptom relief but may not reduce extension

ACCP 2012 recommendation (no change 2016):
Superficial thrombosis ≥ 5 cm in length should receive prophylactic dose fondaparinux or LMWH for 45 days (2B).
Fondaparinux 2.5 mg is preferred over LMWH (2C).

Goals of treatment met by LMWH but dose and duration of LMWH not clear