Surgical treatment of Paget-Schroetter syndrome (PSS) involves first rib resection and division of the anterior scalene muscle (FRR).

Retrospective review of a single institutional experience with PSS, according to a defined treatment algorithm:

- preoperative diagnostic venogram
- as necessary:
  - angioplasty
  - percutaneous mechanical thrombectomy
  - thrombolysis
- transaxillary FRR (preferably 1-30 days later)
- postoperative anticoagulation for, a defined time period (usually one month).

If the vein could not be crossed and opened during VPT then the patient was not offered FRR.

Patients only underwent postoperative VPT if symptoms recurred or if duplex demonstrated reclosure.

- Between 2007 and 2015, 100 cases of FRR for PSS
- 53 women (54 cases in women)
- Mean age: 28 years old (range, 12-68)
- 2 patients (N=4) had contralateral disease
- 28 patients were high-level competitive athletes
- 14 initially had symptoms during or soon after recreational weightlifting
- 8 presented with pulmonary embolism in addition to local symptoms
- 3 had an ipsilateral cervical rib.

Disclosures

- None.
Patients underwent FRR between 7 days and 18 years after their initial symptoms (median, 44 days).

Patients underwent FRR between 1 day and 9 months after VPT (median, 23 days).

Postoperative length of stay was 2-12 days (median, 4 days).

In 18 patients, postoperative VPT was required, and performed 1-137 days postoperatively (median, 15).

No operative venous reconstruction or bypass was performed.

Last follow-up was at 1-8 years after FRR; at that time, 99 of 100 axillo-subclavian veins were patent by duplex ultrasound.

58 yo woman, very physically active presented one year after being put on warfarin for R arm swelling with recurrent and ongoing debilitating symptoms.
Penn experience - summary

- Standard preoperative venography with intervention as needed (VPT)
- Transaxillary first rib resection (FRR)
- Postoperative endovascular reintervention only if needed
  - Recurrent symptoms
  - Complete occlusion on postoperative duplex
- Acute and chronic presentations
- Surgical venous reconstruction was not performed in any case.
- Excellent results: 99% patency at last follow-up

Conclusions

Advantages of this algorithm for treating PSS include:

- the cosmetic benefits of the transaxillary approach
- preoperative gold standard diagnostic venogram to confirm the disease
- preoperative assessment of the ability to recanalize the vein allowing better selection of patients who will benefit from surgery
- the capacity to use thrombolysis preoperatively in cases of significant clot burden
- preservation of the anterior supra- and infra-clavicular spaces for subsequent exploration, venous bypass, neurolysis, etc. IF EVER NEEDED.

Thanks.