



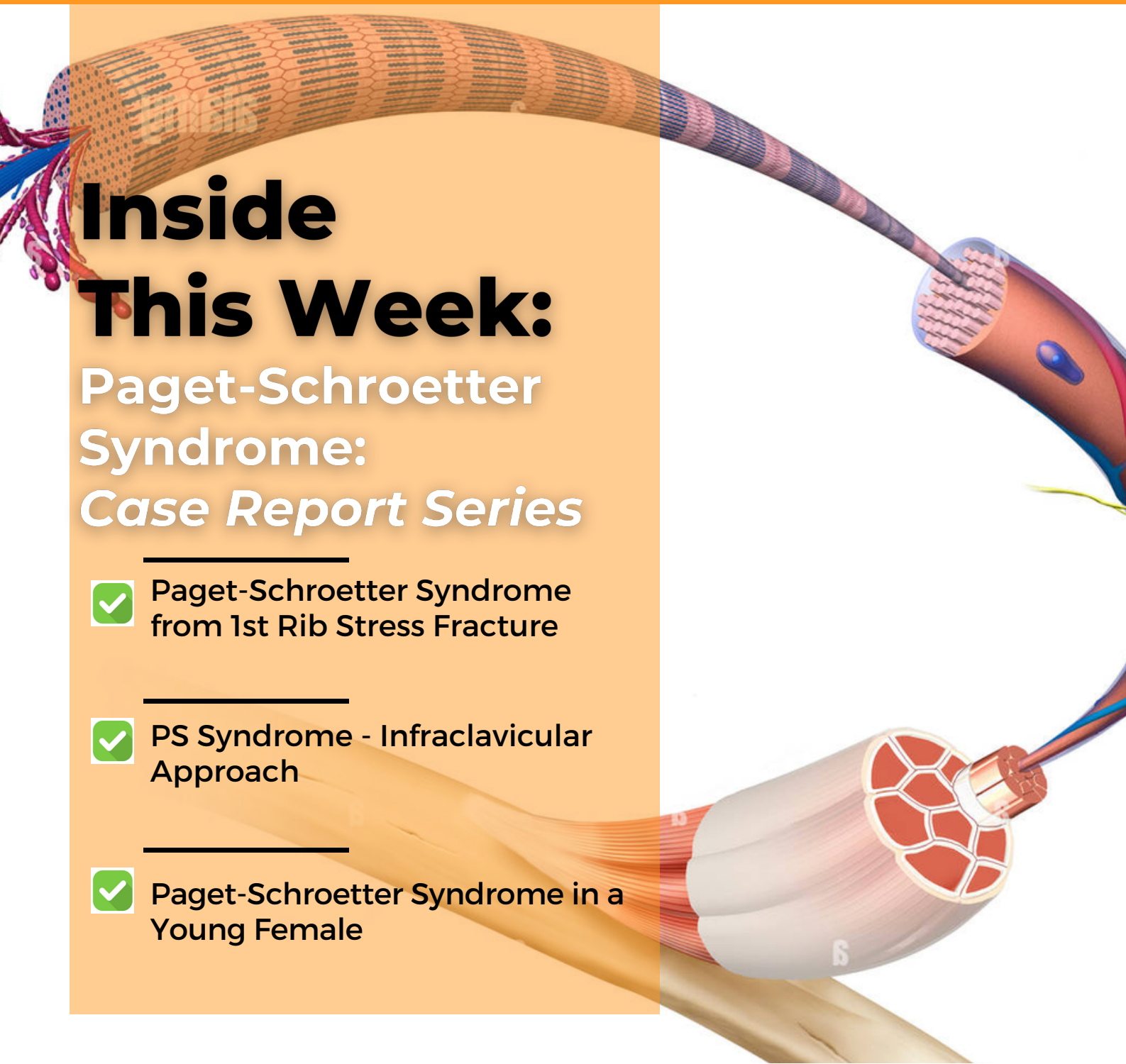
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RAPID RESEARCH

October 2023

Inside This Week: Paget-Schroetter Syndrome: *Case Report Series*

- ✓ Paget-Schroetter Syndrome from 1st Rib Stress Fracture
- ✓ PS Syndrome - Infraclavicular Approach
- ✓ Paget-Schroetter Syndrome in a Young Female



PAGET-SCHROETTER SYNDROME FROM 1ST RIB STRESS FRACTURE

[Click for Full Text](#)
([Garg et al. 2018](#))

This is a case study of Paget-Schrotter Syndrome (PSS) also known as "effort thrombosis." A form of primary thrombosis in the subclavian vein, seen in younger patients after repeated strenuous activity of the shoulders and arms.



Picture 1. Urschel's sign.

KEY FINDINGS

Male (27yr old), left arm pain & swelling, incline press at gym 5 days prior.

Gym regularly 3 times a week for the last 6 months, predominantly doing bodybuilding exercises using the inclined press machine.

X-ray: Healed fracture left 1st and 2nd rib. MRI was arranged, showing subclavian vein thrombosis with an old fracture and callus formation at the left 1st rib.

Referred to the Vascular Surgeons and Computed Tomography (CT) angiography was done which reported healed fractures of the left 1st to 5th ribs.

The left 1st rib fracture demonstrated exuberant callus, which compressed the left subclavian vein against the left clavicle.

6 days after angiojet thrombectomy of left subclavian vein, patient was discharged

1-month follow-up, his left arm symptoms had completely resolved.

MAIN TAKEAWAYS

Although uncommon, PSS may result in life-threatening sequelae such as pulmonary embolism.

As such, there should be a high index of suspicion for PSS in any case of upper limb swelling with a preceding history of repetitive exercises.

Laboratory investigations should include:

Complete blood counts & pro-thrombotic work up.

Doppler US, MRI and Contrast Venography should be considered.

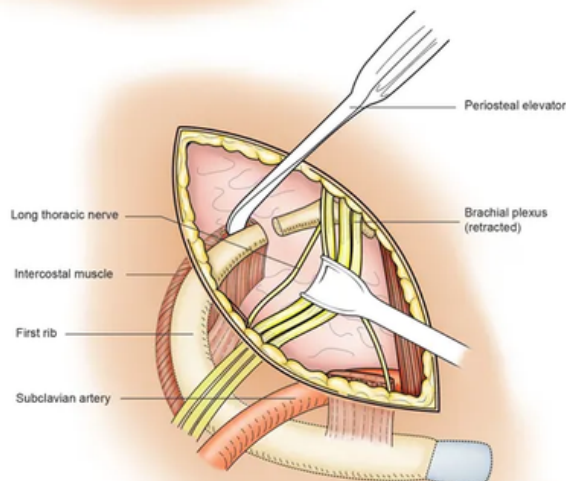
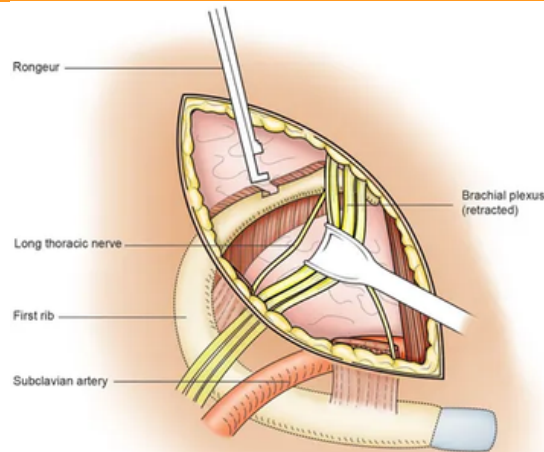
Use dilated superficial veins (Urschel's sign) to differentiate between a muscle rupture and PSS.

PSS diagnosed and treated early, usually results in excellent outcomes.

PS SYNDROME - INFRACLAVICULAR APPROACH

[Click for Full Text
\(Samoila et al. 2018\)](#)

This review reviewed all studies on outcomes in patients undergoing infraclavicular first rib resection for treatment of Paget-Schroetter syndrome.



6 studies (involving 268 patients) included.

The overall secondary venous patency rate was 98.5%.

There was freedom from reintervention in 89.9% of cases and among those patients with re-occlusion, 84.0% had chronic thrombosis (symptom duration >14 days), with 76.2% having a venous segment stenosis of >2cm.

Only 3 of the 27 patients remained occluded despite reintervention.

The infraclavicular approach provides excellent exposure to the subclavian vein and allows reconstruction when required.

Moreover, this approach enables complete resection of the extrinsic compression that precipitated the initial thrombotic event, with excellent long-term patency rates.

MAIN TAKEAWAYS

The IC approach allows complete resection of the anterior first rib, subclavius muscle and costoclavicular ligament.

This eliminates the extrinsic compression that precipitated the initial thrombotic event, with excellent long-term patency rates.

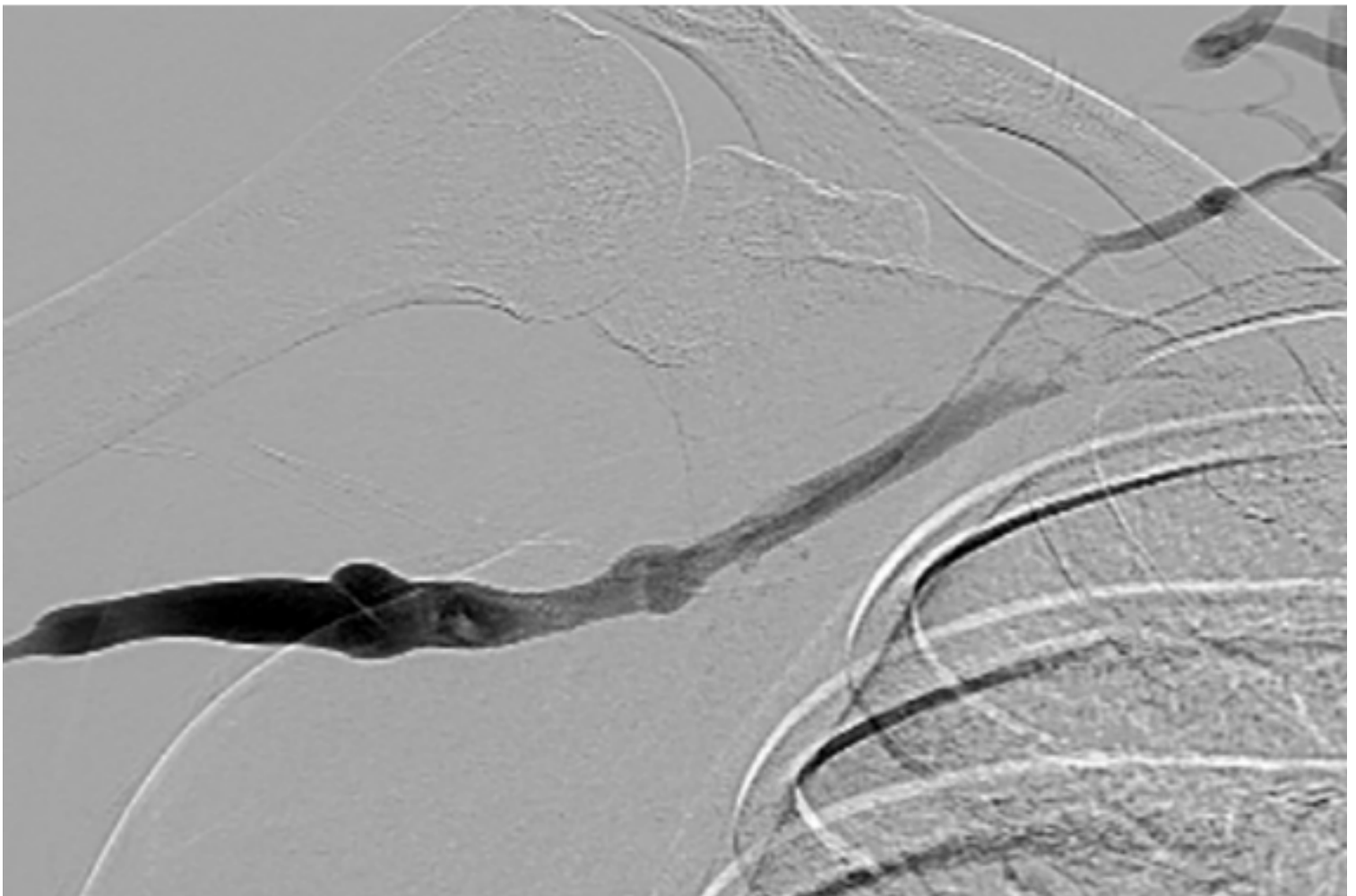
At present, evidence is lacking as to which patients may benefit from venous reconstruction but the IC approach enables this to be performed as medial access is easily obtained for control.

Symptom duration of >14 days and venous segment stenosis of >2cm appear to be predisposing factors for reocclusion requiring reintervention.

PAGET-SCHROETTER SYNDROME IN A YOUNG FEMALE

[Click for Full Text
\(Sangani et al. 2021\)](#)

This study described the application of regenerative therapy to damaged articular cartilage in an athletic horse, with a 2-year follow-up of the clinical performance and rehabilitation up to the return to racing.



KEY FINDINGS

31-year-old female:

Lifts heavyweight at work

Presented with right arm swelling and pain for 2 weeks

Diagnosed with axillary subclavian vein thrombosis secondary to thoracic outlet obstruction.

Treatment:

High-dose heparin drip

Catheter-directed thrombolysis

Surgical decompression of axillary subclavian vein via resection of the first rib, subclavius muscle resection, partial anterior scalenectomy, and venolysis.

MAIN TAKEAWAYS

In our review of the literature, randomized controlled studies lack the efficacy and safety of surgical decompression.

However, the results are promising based on accumulated experience from vascular surgery experts and small case series.

Extensive studies are needed further to delineate the protocol for the management of Paget-Schroetter syndrome.

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