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A CASE REPORT OF THORACIC OUTLET SYNDROME- CERVICAL RIB

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Abstract :

Thoracic outlet syndrome is a syndrome involving compression at the superior thoracic outlet involving compression of a neurovascular bundle passing between the anterior scalene and middle scalene. It can affect the brachial plexus, andor the subclavian artery or rarely the vein. Causes of TOSThe compression may be positional (caused by movement of clavicle and shoulder girdle on arm movement) or static (caused by abnormalities or enlargement or spasm of the various muscle surrounding the arteries, veins and brachial plexus), a first rib fixation and a cervical rib.

Keyword :Thoracic outlet syndrome, Cervical rib, Subclavian artery aneurysm

CASE REPORT:

A 55 years old female presented with complaints of left neck pain and left neck swelling of six month duration. Past history – she had been diagnosed to have cervical rib for which scalenotomy had been done elsewhere a few years before. Clinical examination revealed a scar in the left supraclavicular area and a pulsatile mass in the left supraclavicular area. Allens test, Adson test, EAST(Elevated arms stress test) were positive.

She was subjected to the following investigations

X ray neck showed Cervical ribCT angiogram showed subclavian aneurysm with post stenotic dilatation.The following four pictures are the preoperative pictures.

Preoperative Picture of the patient



An Initiative of The Tamil Nadu Dr M.G.R. Medical University University Journal of Surgery and Surgical Specialities Picture1: X ray neck - cervical rib



Picture 2a: Preoperative picture Xray chest showing left cervical rib



Picture 2b: CT Angiogram- shows Subclavian aneurysm with poststenotic dilatation



She was planned for cervical rib excision, aneurysmal excision and bypass grafting.Procedure under GA, using supraclavicular approach cervical rib was excised. Aneurysmal portion ofthat subclavian artery was excised. Bypass grafting was done between the subclavian artery and axillary artery using ringed PTFE graft

Picture 3:Supraclavicular area exposure





Picture 4:Supraclavicular



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Picture 7: Arterial bypass grafting - Proximal anastomosis in





Picture 6: After rib resection



Picture 8: Arterial bypass grafting - distal anastomosis Picture 9: closure of the wound - drain placed in situ





Picture 11:Post operative picture of the patient during discharge





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Discussion:

Types of TOS: 1) Neurogenic TOS 2) Venous TOS 3)Arterial TOS Clinical features: Neurogenic TOS-Comprise 95% of TOS. Common in middle aged women. Occurs due to compression of Brachial plexus. Patient present with numbness & weakness of the hands & arms. Venous TOS-Develop suddenly after unusual exercise of the arms. Patient present with swollen hands & arms, weakness of the hands & dilated veins over the chest wall. Arterial TOS-Least common but most serious type. Associated with cold sensitivity of fingers, Raynaud pattern of finger discoloration& sores of hands & fingers. High risk group: Atheletes & sportsmen who indulge in repetitive shoulder movement like swimmers, volley ball players

DIAGNOSIS

Clinical examination, blood tests, Chest x ray and Cervical spine x ray to rule out cervical rib, Vascular studies like Arteriogram, Venogram, CT/MRI angiogram of neck and arms.

TREATMENT

Neurogenic TOS is treated by physical therapy to increase range of shoulder movement and medication like aspirin, ibuprofen. Venous TOS is treated by thrombolytic therapy, anticoagulants - warfarin, heparin, fondapurinax and surgery for cervical rib excision. Arterial TOS is treated by thrombolytic therapy, anti coagulants and after establishing vascularity, surgery for removing cervical rib, aneurysm excision and repair of the artery. Various surgical approaches includes: 1. Trans axillary- less scaring but difficult to access subclavian artery 2. Supraclavicular - Good accessibility of subclavian artery 3. Video assisted thoracoscopy

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