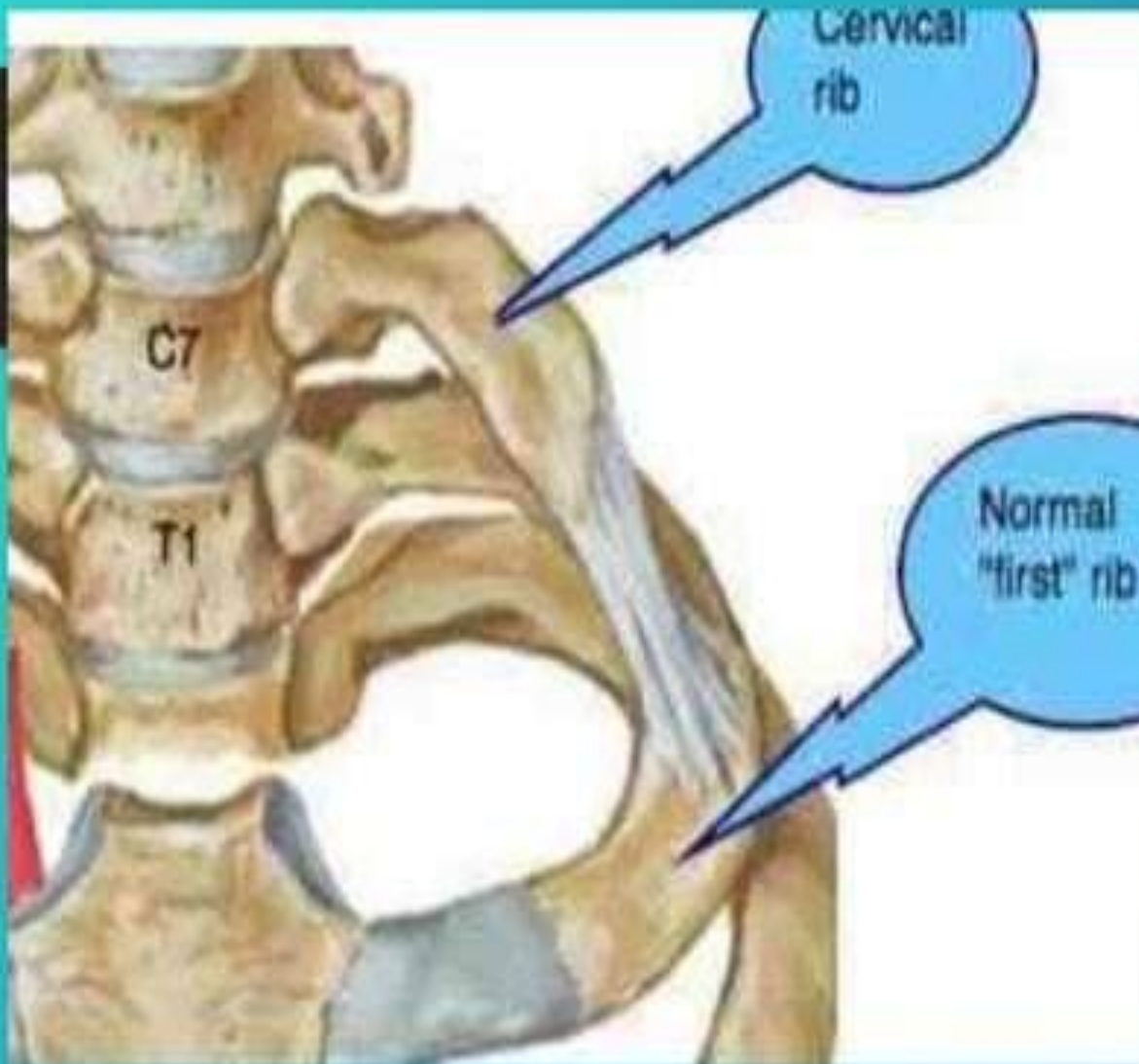


Cervical Rib

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What is it?

- A cervical rib in humans is a supernumerary (or extra) rib which arises from the seventh cervical vertebra. Sometimes known as "neck ribs", their presence is a congenital abnormality located above the normal first rib. A cervical rib is estimated to occur in 0.6% (1 in 150 people) to 0.8% of the population. People may have a cervical rib on the right, left or both sides.

Clinical Importance

- Most cases of cervical ribs are not clinically relevant and do not have symptoms; cervical ribs are generally discovered incidentally. However, they vary widely in size and shape, and in rare cases, they may cause problems such as contributing to thoracic outlet syndrome, because of pressure on the nerves that may be caused by the presence of the rib

- A cervical rib represents a persistent ossification of the C7 lateral costal element. During early development, this ossified costal element typically becomes re-absorbed. Failure of this process results in a variably elongated transverse process or complete rib that can be anteriorly fused with the T1 first rib below.

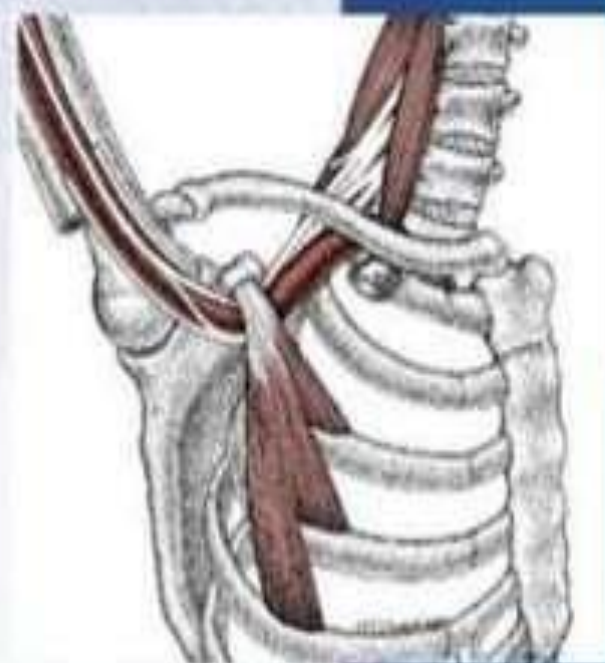
- The presence of a cervical rib can cause a form of thoracic outlet syndrome due to compression of the lower trunk of the brachial plexus or subclavian artery. These structures become encroached upon by the cervical rib and scalene muscles.

Diagnosis

- Compression of the brachial plexus may be identified by weakness of the muscles around the muscles in the hand, near the base of the thumb. Compression of the subclavian artery is often diagnosed by finding a positive Adson's sign on examination, where the radial pulse in the arm is lost during abduction and external rotation of the shoulder. A positive Adson's sign is non-specific for the presence of a cervical rib however, as many individuals without a cervical rib will have a positive test.

Adson's test

- Use the Adson's test to determine compression of the subclavian artery
- Locate the radial pulse with patient sitting or standing
- Feel pulse as you abduct, extend and externally rotate the patient's arm
- Once in position, instruct patient to take a deep breath and hold it and rotate the head toward the tested arm
- Test is positive if the pulse is reduced or lost
- Positive test indicates compromise or compression of the subclavian artery/ neurovascular bundle



Clinical Feature & Symptoms

- Sensory anesthesia over area supplied by lower trunk of brachial plexus
- Pain and paresthesia over ulnar aspect, reduced in changing of position
- Fine movement of hand may loss
- Atrophy may be present in interossei
- Atrophy of thenar & hypothenar may develop in long standing case
- Radial pulse will be feeble
- Forearm and hand may go for cyanosis
- Sleeping in side lying will be pain full
- Patient may complain of stiff neck

Differential Diagnosis

- Raynaud's disease
- MND
- Polio
- Muscular dystrophy

Treatment

- Surgery
- Physiotherapy Management

Surgery

- If too much of neurological problem develop, then opt for surgery.
- Excision of the cervical rib along with dividing of Scaleni group done

Physiotherapy Management

- Aim -
 - to reduce pain
 - normalize the radial pulse
 - maintaining normal muscle power around shoulder and arm
 - save the muscle from atrophy

Exercise Therapy

- Scapular elevation and depression and rotation
- Scapular adduction (shrugging)
- PRE of shoulder girdle muscle
- Isometric exercises
- SNAGs at C6 and C7
- Reverse SNAG at C7 and T1
- Grade 2 & 3 Maitland mobilization at lower cervical and upper thoracic spine
- Rotational Manipulation

Electrotherapy

- IFT
- Faradic Stimulation
as per the requirement

References

- Essential orthopaedics and applied physiotherapy
- Wikipedia
- Slideshare brain and spine presentation