MEDICAL EDUCATION RESOURCE

Anastomoses Around Scapula & Clinical Anatomy

Anastomoses Around Scapula

Arterial Network

- Ensures collateral circulation between branches of **subclavian** and **axillary arteries**.
- Important in **ligation/obstruction of axillary artery**.

Key vessels involved:

1. **Suprascapular artery** (from thyrocervical trunk of subclavian).
2. **Dorsal scapular artery** (from subclavian or transverse cervical).
3. **Circumflex scapular artery** (from subscapular branch of axillary).
4. **Acromial branch of thoracoacromial artery** (from axillary).

Pathways

- Suprascapular ? Circumflex scapular.
- Dorsal scapular ? Circumflex scapular.
- Thoracoacromial ? Suprascapular.

Clinical Anatomy

1. Intermuscular Spaces

Quadrangular Space Syndrome

- **Compression of axillary nerve** ? shoulder pain, deltoid weakness, paresthesia in regimental badge area.

Triangular Space

- Injury to circumflex scapular artery ? may affect scapular anastomosis.

Triangular Interval

- Radial nerve vulnerable ? trauma may cause wrist drop.

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2. Rotator Cuff

- **Rotator cuff tear** ? most common in supraspinatus tendon ? painful arc syndrome.
- Weakness of abduction or rotation depending on muscle involved.
- Clinical tests:
    - Empty can test (supraspinatus).
    - External rotation test (infraspinatus/teres minor).
    - Lift-off test (subscapularis).
- Chronic tears ? shoulder instability, dislocations.

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3. Axillary Nerve

- Injury causes:
  - Fracture of surgical neck of humerus.
  - Shoulder dislocation.
  - Improper use of crutches.
- Effects:
  - Paralysis of deltoid ? loss of abduction beyond 15°.
  - Paralysis of teres minor ? weak external rotation.
  - Loss of sensation over regimental badge area.
- Clinical sign: **flattening of shoulder contour**.

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4. Anastomoses Around Scapula

- Provide collateral circulation if axillary artery ligated proximal to subscapular artery.
- Clinical importance:
  - Maintains blood supply to upper limb in **trauma, aneurysm, or surgical ligation**.
  - Example: ligation of 1st part of axillary artery ? suprascapular and dorsal scapular arteries maintain flow via circumflex scapular.