Anterior Triangle of the Neck

Tuesday, February 12, 2008
1:00 PM

**Landmarks and osteology:**

- **Skull:** yeah...
  - Mastoid process (N 4,8,13) - posterior to mandible, behind ear
- **Mandible (N 15):** jaw
  - Mental protuberance (N 2,15) - chin
  - Inferior border of mandible (N 15)
  - Angle of the mandible (N 15) - where jaw goes from vertical to horizontal
- **Sternum (N 1, 185):**
  - Jugular notch
- **Visceral skeleton (N 28,29,77):** neck?
  - Hyoid bone -bone of the neck
  - Thyroid cartilage - anterior cart. of larynx; connected: above to hyoid bone via thyrohyoid membrane, below to cricoid cart. via inferior horn, posteriorly to arytenoid cart. via vocal lig. & thyroartenoind m., posteriorly to epiglottic cart. via thyroepiglottic lig.; tilts forward to increase tension on vocal lig. & increase pitch of voice
  - Laryngeal prominence - outcropping of thyroid cartilage above larynx
  - Cricoid cartilage - inferior/posterior cartilage of larynx

**Trachea:**

- **Cervical triangles:** (N 28) - dissector 2
- **Deep cervical fascia:** (N 35A,35B) - dissector 4

**Muscles:**

- **Platysma m. (N 26):** thin membrane like muscle, most superficial; originates from fascia overlying pectoralis and deltoids, inserts to inferior border of mandible and skin of lower face; draws corners of mouth down, aids in depression of mandible; innervated by cervical branch of facial nerve (VII)
- **Sternocleidomastoid m. (N 27,28):** dissector 1
- **Infrahyoid (strap) mm. (N 28,29,31):** dissector 1
  - Sternohyoid m.
  - Omohyoid m. (superior & inferior bellies)
  - Sternothyroid m.
  - Thyrohyoid m.

- **Cricothyroid m. (and median ligament) (N 31,74,77):** arch of cricoid cart to inferior border of thyroid cart; external br. of sup. laryngeal n.; only intrinsic muscle of larynx not supplied by inferior br. of recurrent laryngeal n.

**Nerves:**

- **Cervical plexus - VPR of C1-C4**
  - Cutaneous nn. (N 24,31,32,129)
    - Lesser occipital n. - C2; skin behind ear; runs under SCM then posterolateral to it alongside (infero-posterior to) great auricular
    - Great auricular n. - C2 and C3; skin of ear and below ear; see lesser occipital for location
    - Transverse cervical n. - C2 and C3; skin of neck anteriorly; number of branches travelling toward midline from under external jugular above SCM
    - Supraclavicular nn. - C3 and C4; skin of root of neck, upper chest, upper shoulder; number of branches traveling inferiorly toward clavicle
  - Motor nn. (N 36,135)
    - Ansa cervicalis - sup/inf roots; branches to strap muscles
      - Superior & inferior roots - C1/C2 and C2/C3; inferior lateral to superior
Cervical branch of facial n. (CN VII) (N 29, 51) - supplies muscles of lower face/ platysma; runs along internal jugular vein
Vagus n. (X) (N 132) - in cartoid sheath between carotid and internal jugular
Superior laryngeal n. (N 78, 79, 80) - branches off vagus superior to thyroid; supplies the cricothyroid, infra. pharyngeal, mucous glands of larynx above vocal folds.
   External br. (N 74, 75, 76) - runs anteriorly to inferior pharyngeal constrictor and supplies cricothyroid; travels with superior thyroid artery
   Internal br. (N 67, 74, 75, 76) - runs posteriorly to inferior pharyngeal constrictor
Recurrent laryngeal n. (N 74, 75, 76) - branches off vagus to run inferiorly to thyrocervical trunk on left and aortic arch on right then loops back up; supplies upper esophagus, lower pharynx, laryngeal muscles except cricopharyngeus, tracheal smooth muscle etc.; runs in tracheoesophageal groove
Hypoglossal n. (XII) (N 32, 71, 128) - from medulla of brain; innervates muscles of tongue; gives off superior branch of ansa cervicalis to thyrohyoid

**Vessels:** - refer to netter's
   Superficial vv.
      External jugular v. (N 31, 74)
      Anterior jugular v. (N 31, 74)
      Communicating v. (N 31, 74)
      Jugular venous arch (N 256)
      Common & external carotid aa. (N 31, 32, 33, 34)
      Superior & inferior thyroid aa. & vv. (N 74, 75, 76)
      Internal jugular v. (N 31)
      Middle thyroid v. (N 74)
      Superior laryngeal a. (N 74, 76)

**Thyroid gland:** (N 74)
   Lobes
   Isthmus
   Pyramidal lobe

Parathyroid glands (N 75)

Miscellaneous:
   Thyrohyoid membrane (N 77)
   Tracheoesophageal groove (N 76)
   Deep cervical lymph nodes (N 72)

**Clinical Terms:**
   Goiter - enlargement of thyroid gland, not cancerous
   Tracheostomy - surgical creation of airway in trachea; usually done below thyroid cartilage
   Cricothyrotomy - emergency cut or passageway made in cricothyroid membrane
   Thyroidectomy - removal of all/part of thyroid gland; surgery can result in vocal cord paralysis by cutting recurrent laryngeal or accidental removal of parathyroid glands
   Thyroglossal duct cyst - fluid-filled sac present at birth in midline of neck; results of incomplete closure of segment of tube-like structure that should close with embryonic development
   Torticollis - wry neck, contracted state of cervical muscles usu. SCM, producing twisting of neck and unnatural position of head