LYMPHATIC DRAINAGE OF HEAD & NECK

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INTRODUCTION

• All the lymph from the region of head and neck drains into *deep cervical lymph nodes*.
• The efferents from these nodes form the *jugular trunk*.
• On the right side, jugular trunk drains into *right lymphatic duct*.
• On the left side, jugular trunk drains into *thoracic duct*.
• Out of total 400-450 lymph nodes of human body, ~60-70 nodes are located in the region of head and neck.

• Lymph nodes in the head and neck region can be grouped into:
  
  • *Superficial nodes.*
  • *Deep nodes.*
SUPERFICIAL LYMPH NODES

- Lie above the investing layer of deep cervical fascia.
- Consists of a few small nodes lying superficial to the external jugular and anterior jugular veins.
- Includes:
  I. Submental nodes.
  II. Submandibular nodes.
  III. Buccal nodes.
  IV. Parotid (preauricular) nodes.
  V. Mastoid (postauricular or retroauricular) nodes.
  VI. Occipital nodes.
  VII. Superficial cervical nodes.
  VIII. Anterior cervical nodes.
SUPERFICIAL CERVICAL NODES

- These are offshoot of superficial parotid nodes.
- Located superficial to upper part of sternocleidomastoid by the side of external jugular vein.

**AFFERENTS**- from

1. Floor of external acoustic meatus.
2. Lobule of the ear.
3. Angle of jaw.
4. Lower part of parotid region.

**EFFERENTS**- drain into

- Lower deep cervical nodes.
ANTERIOR CERVICAL NODES

- Arranged along the anterior jugular vein.

**AFFERENTS** - from

- Anterior triangle of neck below the hyoid bone.

**EFFERENTS** - drain into

- Lower deep cervical nodes.
DEEP LYMPH NODES

- Deep cervical nodes.
- Waldeyer’s ring.
- Nodes of midline.
NODES OF MIDLINE

• Termed in correspondence to the anatomical area where they exist:
  
  • **Infrahyoid.**
  
  • **Prelaryngeal.**
  
  • **Pretracheal.**
  
  • **Paratracheal.**
DEEP CERVICAL LYMPH NODES

• All the lymph from the region of head and neck drains directly or indirectly into a vertical chain of deep cervical lymph nodes.

• Deep cervical lymph nodes surround the internal jugular vein and extend from base of the skull to the root of neck.
DEEP CERVICAL LYMPH NODES CONTD...

- Subdivided into 2 groups by the intermediate tendon of omohyoid.

  - **Upper deep cervical nodes.**
  - **Lower deep cervical nodes.**

**UPPER DEEP CERVICAL NODES**

- Lie along the upper part of internal jugular vein deep to sternocleidomastoid muscle.

**LOWER DEEP CERVICAL NODES**

- Lie along the lower part of internal jugular vein deep to sternocleidomastoid muscle.
UPPER DEEP CERVICAL LYMPH NODES

JUGULO-DIGASTRIC NODES-
• Member of upper deep cervical group.
• Located below the posterior belly of digastric muscle.

AFFERENTS- from
1. Palatine tonsils.
2. Posterior 1/3rd of tongue.

EFFERENTS- into
• Lower deep cervical nodes.

❖ These nodes act as principal nodes of palatine tonsils.
LOWER DEEP CERVICAL LYMPH NODES

JUGULO-OMOHYOID NODES-

- Member of lower deep cervical group.
- Lie on the internal jugular vein just above the intermediate tendon of omohyoid.

**AFFECTENTS**- from

1. Tongue.
2. Submental nodes.
3. Submandibular nodes
4. Upper deep cervical nodes.

**EFFECTENTS**- into

- Lower deep cervical nodes.

> These nodes act as principal nodes of tongue.
LOWER DEEP CERVICAL LYMPH NODES CONTD...

VIRCHOW’S NODES-

- Left supraclavicular nodes or left scalene nodes.

- Enlarged in malignancy of stomach.
LYMPH NODES OF HEAD & NECK

CLASSIFICATION OF LYMPH NODES-

• Peripheral.
• Terminal.

Peripheral Lymph Nodes-

• Arranged in outer and inner circles.

OUTER CIRCLE-

• Forms a pericervical or cervical collar at the junction of head and neck.

• Extends from chin to the occiput.

• It includes:
  I. Submental nodes.
  II. Submandibular nodes.
  III. Buccal nodes.
  IV. Parotid (preauricular) nodes.
  V. Mastoid (postauricular or retroauricular) nodes.
  VI. Occipital nodes.
LYMPH NODES OF HEAD & NECK CONTD...

INNER CIRCLE-

• Surrounds the upper part of respiratory and alimentary passages.

• It includes:

I. Prelaryngeal nodes.

II. Pretracheal nodes.

III. Paratracheal nodes.

IV. Retropharyngeal nodes.
PRELARYNGEAL NODES

- Located in front of conus elasticus.

PRETRACHEAL NODES-

- In front of trachea and above the isthmus of thyroid gland.
SUBMENTAL NODES

- Located in the submental triangle.
- 3 or 4 in number.
- Situated on mylohyoid muscles between the anterior bellies of both digastric muscles.

AFFERENTS- from

1. Tip of tongue.
2. Floor of mouth.
3. Lower gums opposite the incisor teeth.
4. Central part of lower lip.

EFFERENTS- into

- Sub-mandibular nodes.
- Jugulo-omohyoid nodes.
SUBMANDIBULAR NODES

- Located in the digastric triangle beneath the deep cervical fascia in contact with the submandibular salivary gland.

- 3 in number.
AFFERENTS - from

1. Centre of forehead.
3. Side of the nose.
4. Cheek and angle of mouth.
5. Whole of the upper lip.
4. Lateral part of lower lip.
5. Anterior 2/3rd of the tongue.
6. Upper gums.
7. Lower gums.
8. Frontal, maxillary and most of the ethmoidal sinuses.
9. Submental lymph nodes.
EFFERENTS- into

- Mainly jugulo-omohyoid and partly into jugulo-digastric nodes.
BUCCAL NODES

- One member of submandibular nodes.
- Lies on the **buccinator**.
BUCCAL NODES

AFFERENTS- from

1. Part of the cheek.
2. Lower eyelid.

EFFERENTS- into

• Upper deep cervical nodes.
PAROTID (PREAURICULAR) NODES

- Lie superficial and deep to the fascial capsule of parotid gland and within its substance.

- Divided into 2 groups:
  - **Superficial group.**
  - **Deep group.**

**SUPERFICIAL GROUP**

- Receives afferents from:
  1. Upper part of forehead.
  2. Temporal region.
  3. Upper part of lateral surface of auricle.
  5. Eyelids.

**DEEP GROUP**

- Receives afferents from:
  1. Nasopharynx.
  2. Posterior part of the nose.
  3. Tympanic cavity.

**EFFERENTS**- drain into

- Upper deep cervical nodes.
MASTOID (POSTAURICULAR) NODES

- Lie superficial to the sternocleidomastoid near its attachment to the mastoid process.

Afferents - from

1. Upper part of cranial surface of auricle.
2. Adjoining portion of the scalp.
MASTOID (POSTAURICULAR) NODES

EFFERENTS - drain into

- Upper deep cervical nodes.
OCCIPITAL NODES

• Located at the apex of posterior triangle superficial to the trapezius.

AFFERENTS- from
• Posterior part of the scalp.

EFFERENTS- drain into
• Supra-clavicular nodes.
Thanks!