

Differential diagnosis of cervical lumps

A mass in the neck is a common clinical finding that presents in patients of all age groups. The differential diagnosis may be extremely broad.

The 1st consideration should be the patient's age group.

Three main age groups need to be considered:

Pediatrics..... (0 – 15 years)

Young adult (16 – 40 yrs.) &

Late adult (< 40 yrs.)

- In general, neck masses in children are more commonly inflammatory than congenital or developmental & more commonly congenital than neoplastic. This distribution is similar in the young adult. However, the 1st consideration in the late adult should be neoplasia.
- The rule of 80 is often applied, which states that 80% of non-thyroid neck masses in adults are neoplastic & that 80% of these masses are malignant.
- A neck mass in a child, on the other hand, has a 90% probability of being benign.

- The next consideration should be the location of the mass; the location of the mass is particularly important with respect to congenital & developmental masses, because such lesions are consistent in location. For metastatic neck masses, their location may be the key to identification of the primary tumour. It is important despite these general considerations of age & location to treat each case individually.

Diagnostic steps

- Evaluation of the patient with a neck mass must begin with a careful & complete **history** & a thorough head & **neck examination**.
- Emphasis on location, mobility & consistency of the neck mass can often place the mass within a general etiologic grouping such as vascular, salivary, nodal, inflammatory, congenital or neoplastic.

Diagnostic studies

① **Fine Needle Aspiration Biopsy (FNAB)**

- Currently, FNAB is the standard of diagnosis for neck masses & is indicated in any neck mass that is not an obvious abscess & persists following prescribed antibiotic therapies.
- FNA separates inflammatory & reactive processes that usually don't require surgery from neoplastic lesions, either benign or malignant.

② Ultrasonography

- With the current accuracy of FNA , this study has become less important in the work-up of the neck mass . However, it is sometimes useful in **differentiating solid from cystic masses** & congenital cysts from solid lymph nodes & glandular tumors.
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③ Computed Tomography (CT)

- CT scanning of the neck has become a very helpful tool in diagnostically difficult cases. It can distinguish cystic from solid lesions, define the origin & full extent of deep ill-defined masses can delineate vascularity or blood flow.

④ Magnetic Resonance Imaging

- It is currently better for upper neck & skull base masses with contrast it is good for **vascular delineation** & may even substitute for arteriography in the pulsatile mass or mass with a bruit or thrill.

Benign neck masses

- ...Congenital & developmental neck masses
 - Branchial cysts, fistula
 - _Asymptomatic swelling, at the anterior border of the sternomastoid muscle is characteristic; typically these cysts present in the late teens, but they may arise at any age.
- ** Pain is infrequent unless a secondary infection occurs.
- DDX.
 - Differentiation must be made from haemangiomas, lymphangiomas, thymic cyst, lymphomas, metastatic thyroid Ca & dermoids.

Thyroglossal duct cysts

- These cysts comprise **70%** of congenital neck anomalies
- A midline mass at or just beneath the hyoid bone, smooth & well demarcated is most suggestive.

DDX.

- Dermoid cysts, benign lymphadenopathy & sebaceous cyst.
- During migration of the embryonic thyroid, a duct is formed failure of obliteration, results in a tract or cyst in immediate association with the hyoid bone.


Dermoids

- Contain skin appendages, they are most often midline. A painless, slowly enlarging midline mass is characteristic.
- A dermoid is well demarcated, non tender & rubbery to palpation, it is not mobile on swallowing.

Cystic hygromas

- Are benign congenital lesions of lymphatic derivation **90%** are detected by age 2
- Asymptomatic cystic hygromas are soft, multilobular & usually ill-defined; they can occur in any anatomic region of the head & neck.

Diagnostic studies

-  Aspiration produces a straw-colored fluid.
Transillumination CT scanning (define areas of involvement).

Haemangoimas

- Usually present soon after birth. They involve the skin alone in two-thirds of patients the remainder being subcutaneous alone or mixed.
- Many of the cutaneous lesions are extremely red (strawberry haemangoima), the deeper lesions frequently Blanche with pressure
- **90%** resolve spontaneously in **1st 2 years**.
- Primary tumours of neck structures

Carotid body tumors (chemodectomas)

- The symptoms are most often that of a slowly enlarging mass in the area of the carotid bifurcation.
- They usually present between the 3rd & 6th decades they are firm rubbery masses at the carotid bifurcation.
- They take origin from chemoreceptors in the carotid bulb.
- They are pulsatile, on the side of the neck & deep to sternomastoid muscle (upper third)
- **Dx.**by angiography.

Neurogenous tumours of the vagus nerve

- May be either neurofibromas or neurilemmoma & they are all benign. There is often diffuse thickening in the neck in the upper sternomastoid region & around the tail of the parotid.

Chondroma

- It occurs on the carotid & presents as a hard midline swelling. It moves on swallowing, grows slowly.
- **Other benign neck masses**
- Skin & associated structures :-
 - ①—***Sebaceous cyst***: is the most frequent skin lump & the diagnostic feature here is the presence of a punctum.
 - ②—***Lipoma*** can occur anywhere in the neck, but usually presents as a supraclavicular fat pad.
 - ③—***Neurofibromas*** are usually flat raised areas.
 - ④—***Melanomas***.

Thyroid masses

- This is the commonest group of neck swellings seen in a general hospital.
- Simple goitre is most found.
- A painful hard swollen thyroid accompanied by a fever is suggestive of thyroiditis.
- A solitary thyroid nodule should always be regarded with suspicion because it may be a simple adenoma, papillary Ca, a follicular Ca or a medullary Ca.
- A squamous Ca. or reticulosis of the thyroid gland presents as a painless swelling & causes tracheal compression or recurrent laryngeal nerve paralysis.

Salivary gland diseases

- These may be included in neck swellings as the submandibular gland lies entirely within the neck, & the tail of the parotid in which most the tumours start, is also within the neck area.
- Any diffuse swelling of these glands is probably not neoplastic but is much more likely to be due to parotitis (mumps) or sialiectasis with or without calculus formation.

- **Miculicz....** described a syndrome consisting of swelling of all four salivary glands & of the lacrimal glands; this syndrome was later associated with Keratoconjunctivitis & arthritis (***Sjögren's syndrome***). Other cause of diffuse enlargement may include diabetes, iodides, gout, myxoedema & Cushing's disease.
- The commonest benign tumour of salivary glands is a pleomorphic adenoma.

Laryngocele

- It is a remnant of the primitive air sac & presents at the side of the neck over the thyrohyoid membrane. It may be easily inflated & emptied of air & it shows a characteristic radiographic appearance.



THANK YOU

