

Neck and Thyroid Lumps

Introduction

Neck Lumps in general should be investigated. They can occur in children and adults. The topic of neck lumps is very wide and the information here is meant to cover the common causes, investigations and treatments.

Definition

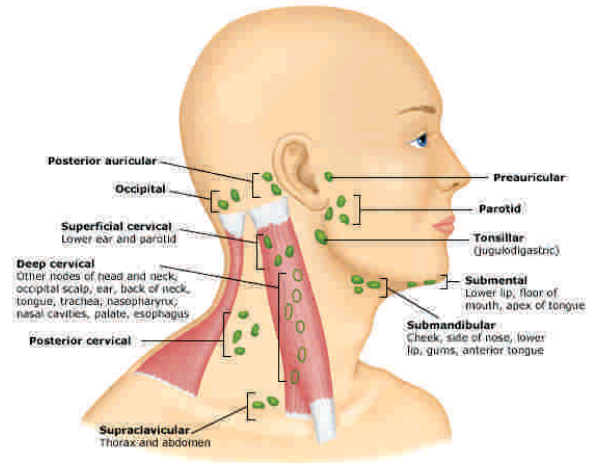
A neck lump is a congenital or acquired mass arising from the neck from above the clavicle to below the mandible (jaw) and skull base.

Features that help distinguish between Neck Lumps

- Age** - neck lumps in children are usually congenital (cystic hygroma) or inflammatory (infection). In young adults, inflammatory and thyroid lumps. In patients over 40 years old, all neck lumps are presumed to be malignant until proven otherwise.
- Onset** - Painful, sudden onset lumps are inflammatory. Slowly growing, progressive neck lumps could be malignant.
- Duration** – lumps persisting more than 6 weeks must be investigated.
- Consistency** – hard and firm lumps are more dangerous than soft, mobile lumps.
- Location** – Lumps in the midline are not usually cancerous. Lumps found laterally (at the side) need proper assessment.
- Associated symptoms** – presence of other symptoms such as cough, shortness of breath, difficulty swallowing, loss of weight, hoarseness may indicate associated ENT malignancies. Thyroid lumps move on swallowing.

Differential Diagnosis

- Lymphadenopathy (enlarged lymph nodes)** – this is one of the more common causes of neck lumps as they drain lymph from the head and neck region (Figure 1). There are 150 to 200 neck nodes on each side of the neck and some may enlarge (swell) in response to infection, tumor (eg. Lymphoma) or inflammation. Large matted lymph nodes are typical of tuberculosis. In all Chinese (Asian) patients with a persistent enlarging neck node, nose cancer must be excluded.



- Congenital Lumps** – Cystic Hygromas are seen only in children. Branchial cysts are also congenital but usually present in young adults.
- Salivary gland tumors/ infection** – tumors or infections of the parotid and submandibular glands will present as swellings in the neck. The majority of tumors arising from these glands are benign. Infections are associated with intense pain, fever and swelling.
- Soft tissue swellings** – lipomas (fatty growths), sebaceous cysts (hair follicle cysts), dermoid and thyroglossal duct cysts (midline congenital cysts) are commonly found in the neck.
- Thyroid masses** – The thyroid gland is found in the midline and can present with general diffuse swelling or discrete single or multiple nodules within the gland. (see below)
- Vascular masses** – these are masses arising from blood vessels. They are uncommon causes of neck swellings and include carotid body tumors.

Investigations

The aim of investigations into a neck mass is to determine the nature and extent of disease. All patients with persistent neck lumps require a full ENT examination. There are a few investigations tools used in the assessment of a neck lump.

1. **Fine needle aspiration cytology (FNAC)** – this is a clinic-based procedure which involves inserting a small needle attached to a syringe into the lump and aspirating (sucking) cells from within the lump. The aspirate is smeared onto glass slides and sent to a pathologist for histological examination. The FNAC is about 95 to 97% accurate in determining the nature of the neck lump (figure 2)



2. **Radiologic Imaging** – Two main modalities are used; CT scan and MRI scan. CT scans assess bony structures better and MRI scans assess soft tissue structures better than CT scans. Depending on what is being examined, your doctor will order one or both of these scans.

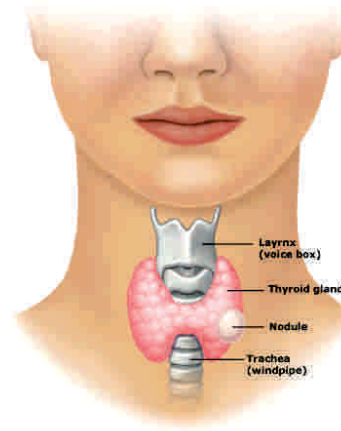


3. **Ultrasound** – this is a technique to visualize muscles, soft tissue, abnormal masses using real-time tomographic

images. Its main application in neck lumps is in the assessment of thyroid masses. Unlike, CT and MRI scans, ultrasound interpretation is highly dependent on the operator (ie. the person performing the ultrasound).

Thyroid Masses

The thyroid gland is found at the centre of the neck (figure 3). It is a butterfly-shaped gland that hugs the trachea (windpipe). This is why thyroid lumps always move on swallowing. The thyroid gland is responsible for producing thyroxine, a hormone that regulates metabolism and hence crucial to a person's well-being. An enlarged thyroid gland is called a goiter. If the whole gland is enlarged, it is called a diffuse goiter and this is usually associated with excess or inadequate hormone production. If parts of the gland are enlarged, it is called nodular (single) goiter or multinodular (multiple lumps) goiter.



Investigating a Thyroid Mass

All thyroid enlargements due to hormonal imbalance are managed by an endocrinologist. ENT surgeons will manage discrete (nodular) thyroid masses. Two investigations are required in assessing a thyroid mass.

1. **FNAC** – 4 possible results are seen in thyroid masses; colloid nodule (almost always benign), papillary (always malignant), follicular (80% chance benign, 15 to 20% chance malignant) and indeterminate (unable to tell nature of nodule).
2. **Ultrasound** – this tool will help determine whether the lump is a single or part of a multinodular goiter. It can also tell whether the lump is solid, cystic or mixed. Malignant lumps are generally solid.

Treatment of Neck Lumps

The treatment is dependent on the cause of the neck lump. Infections are treated with antibiotics, abscesses are surgically drained, benign cysts and growths are excised. Malignant disease requires further investigation and the primary source of the malignancy treated with the appropriate treatment modality.

Summary

1. Neck lumps are common and most are benign in nature.
2. All Chinese (Asian) patients with a persistent neck lump should have a full ENT examination to exclude nose cancer
3. Thyroid lumps move on swallowing. They are most common in women and the incidence increases with age.

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