



Treatment Updates

Assessment and Treatment of Neck Lumps

INTRODUCTION

A significant number of patients visit their family practitioner for assessment of a lump in the neck. The outline below is an overview for a strategy of managing these patients in a primary care setting. There are several important factors that need to be considered. Among them are:

1. Is the neck lump normal or abnormal
2. Age of patient
3. History of the lump
4. Physical examination

DEFINITION

A neck lump is any congenital or acquired mass arising in the anterior or posterior triangles of the neck between the clavicles inferiorly and the mandible and the base of the skull superiorly.

NORMAL OR ABNORMAL?

It is important to be able to recognise normal neck masses. The hyoid bone and the thyroid cartilage are palpable normal structures in the neck. The transverse process of the 1st cervical vertebra just below the mastoid process behind the ear are palpable and are normal structures in the neck. The presence of multiple small non tender mobile lymph nodes, particularly in children, is considered normal.

AGE

In the paediatric age group (0-15) a neck lump is likely to be inflammatory or congenital. Lumps are rarely neoplastic.

NECK LUMPS IN CHILDREN

Sebaceous cysts

Can occur anywhere in the neck in children, they are slowly enlarging and on close examination have punctum. They are entirely benign and if they are unsightly or causing a problem are appropriately managed by surgical excision.

Cystic hygromas

Cystic hygromas are congenital lesions of lymphoid tissue. They tend to occur in infants, often occur at the base of the tongue, they transilluminate quite brilliantly and they often come and go. Large **cystic hygromas** can cause protrusion of the tongue, salivation or an unsightly neck mass. Treatment depends on severity of symptoms caused and may involve simple observation, injection with sclerosants, laser therapy or excision.

Thyroglossal cysts

Thyroglossal cysts are the most common congenital neck mass. 50% of these present before the age of 20 often in the second decade of life, 75% of them are midline structures, the other 25% are near the midline. They are discrete firm lumps that elevate on swallowing or protrusion of the tongue. They are an embryological remnant of the descent of the thyroid gland from the base of the tongue into its position in the neck. **Thyroglossal duct cysts** are managed by surgical excision. The operation often involves resecting part of the hyoid bone and the tract from the **thyroglossal duct cyst** to the foramen caecum in the base of the tongue.

Dermoid cysts

Dermoid cysts can occur in the midline and mimic **thyroglossal duct cysts**. Treatment for **dermoids** again is surgical excision and histopathological evaluation.

Branchial cysts

Branchial cysts present as a cystic mass anterior to the sternocleidomastoid muscle just below the mandible. They may get infected so they may appear as a large inflammatory swelling, which subsides with antibiotics. They represent a persistence of the 2nd branchial cleft. Occasionally they have a small internal tract or sinus into the tonsillar fossa. They are treated by surgical excision.



Ranula

A ranula is a cystic swelling in the floor of the mouth. It is a mucous extravasation cyst caused by saliva or spit escaping from the sublingual salivary glands. If they extend through the floor of the mouth they are referred to as a **plunging ranula** and may present as a soft mass adjacent to the midline just under the angle of the jaw. If symptomatic, treatment is surgical.

Viral/bacterial lymphadenitis

Remember that small multiple lymph nodes are often palpable in children. Cervical adenitis secondary to acute upper respiratory tract infection, tonsillitis and Epstein Barr virus are usually obvious from taking a history. If these lumps persist think of chronic inflammatory diseases such as **cat scratch fever, sarcoidosis** or typical or atypical **tuberculosis**. Neoplasms are unusual in children and are usually lymphomas.

YOUNG ADULTS

Inflammatory masses and thyroid malignancies are the common neck swelling in young adults. Viruses like infectious mononucleosis or bacterial infections like tonsillitis and pharyngitis lead to cervical lymphadenopathy. Remember that **papillary thyroid cancer** can present as an isolated non tender thyroid mass or isolated non tender lymphadenopathy in this age group.

In the over 40's neck lumps are presumed to be **malignant** until proven otherwise. These can be primary or secondary tumours and they can be benign or malignant. With regards to the **benign primary tumour** any structure may be involved. It may be the skin, subcutaneous tissue, fat, nerve, muscle or blood vessels. Examples of common benign primary tumours in the neck are lipomas, fibromas, haemangiomas and neuromas. The other most common group of **primary benign tumours** in the head and neck are salivary **gland tumours**. Of the **salivary gland tumours** the most common tumours are either **pleomorphic adenoma** or **Wharthin's tumour** both of which occur as an isolated lump in the tail of the parotid. Benign **thyroid tumours** are commonly multinodular goitre, isolated cysts or adenomas.

Primary malignant tumours can occur in the salivary glands (parotid or submandibular gland), thyroid gland as well as primary lymph node tumours or lymphomas and sarcomas.

Secondary malignancies often present as metastatic lymphadenopathy. Lymph nodes tend

to be multiple, rock hard, non-tender and have a tendency to be fixed. The primary tumour can be anywhere in the upper aerodigestive tract or may arise from the skin of the head and neck such as squamous cell carcinomas or melanomas. 75% of the primaries are in the head and neck, that is to say thyroid, nasopharynx, tonsils, larynx, pharynx or skin but remember that 25% of the primaries may be infraclavicular, predominantly stomach, pancreas, lung or kidney.

Primary Head and Neck cancer is the **6th** most common cancer worldwide. Head and Neck cancers comprise about 5% of all cancers. Squamous cell cancer is the most common upper aerodigestive tract malignancy and is strongly associated with smoking and drinking. 50% of Head and Neck cancers occur in the oral cavity and are accessible to examination without the need for sophisticated instrumentation.

HISTORY

The important information to be gathered while taking history from any patient with a neck lump is:

1. Onset

The nature of the onset of the lump is vital to establish the pathology of the lump. Rapid onset and painful swelling suggests an inflammatory condition whereas a slowly progressive lump which is not painful suggests a neoplastic lesion. Inflammatory swellings of the neck are commonly associated with infections of the ear, nose, throat or scalp.

2. Duration

Inflammatory lumps settle once the primary source of infection is treated. A neck lump which persists for more than 6 weeks with or without associated symptoms needs referral to an **ENT Surgeon**.

3. Associated symptoms

It is vital to gather information from the patient that may help suggest a primary Head and Neck malignancy presenting as metastatic lymph node enlargement. The symptoms and their associations are:

- Dysphonia or altered voice (indicating the possibility of a cancer of the larynx).
- Dysphagia or odynophagia (indicating a cancer of the pharynx or oesophagus).
- Shortness of breath or dyspnoea (indicating a cancer in the trachea or lungs).
- Weight loss or cachexia (which is often associated with a visceral malignancy).



4. Social History

Occupational exposure to carcinogens such as asbestos, nickel and wood dust are associated with an increased risk of specific Head and Neck cancers. **Smoking** remains the single most important risk factor for carcinoma of the upper aerodigestive tract and a detailed history regarding active and passive smoking should be sought. **Alcohol** consumption is also a known risk co-factor probably acting as a potentiating agent for cancers of the Head and Neck.

5. Physical examination

At primary care physician level physical examination involves meticulous examination of the neck, looking for certain characteristics of the lump, particularly in the following;

Is it a single lump or are there multiple lumps? Is it larger or smaller than 2 cm? Is it fixed or mobile? Is it tender or non tender? Is it associated with surrounding inflammation or not? Has it been growing? How long has it been there?

Remember that 50% of upper aerodigestive tract malignancies occur on the tongue and in the oral cavity so carefully examine the gums, the area behind the teeth (retro molar trigone), the palate and the tongue.

If the lump has been there for more than 6 weeks or if it has any of the characteristics discussed above suggesting malignancy, urgent referral to an **Ear Nose and Throat Surgeon** is indicated.

He will perform, in addition to the examination that you have performed, endoscopic assessment of the upper aerodigestive tract, appropriate imaging which would probably involve either ultrasound or CT scan of the neck, fine needle aspiration biopsy and then plan definitive therapy.

Characteristics of CT or MRI scans indicating malignancy include rim enhancement, central necrosis, nodal size of greater than 1 cm and obliteration of tissue planes in the neck.

Remember that open biopsy should be avoided because it can compromise definitive treatment. **Fine needle aspiration** is safe, rapid, inexpensive, very useful in terms of pre surgical planning and patient counselling. It avoids the need for open biopsy and there is no evidence of it causing tumour seeding in **Head and Neck malignancies**.

Don't ignore adult neck lumps especially when the cause is not apparent and when they have been present for more than 6 weeks. History, meticulous examination of the neck and the oral cavity is mandatory. If you are going to organise imaging ultrasound and CT scan are the initial imaging modalities together with ultrasound-guided fine needle aspirate. In conclusion neck lumps are common, they are usually benign in children.

If further information is required, please email us:
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