

Approach to a Neck Mass

Objectives

- Develop a Diagnostic Approach
- Review Differential Diagnosis
- Case-Based Review

History – Important Points

- Mass itself:
 - Duration, ? Size or character change since noticed
- Associated symptoms:
 - Pain, sensory loss, epistaxis, dysphagia, hoarseness, hemoptysis, cold/heat intolerance, hearing change...
- Social history:
 - Smoking, chewing tobacco, alcohol
- Past medical history
 - Radiation*, skin cancer/lesion
- Family history *

Physical Examination

- Take the time to be thorough
- Inspection:
 - Exterior scalp, face, ear
 - oropharynx, hypopharynx, larynx, nasal passage
 - External Ear
 - Flexible fiberoptic endoscopy
- Palpation -- External & Bimanual
 - Mass, thyroid, lymph node levels, oropharynx, salivary glands
- Relation to swallowing/tongue protrusion

Fine Needle Aspiration

- Often the first diagnostic test
- Simple and highly sensitive
- No longer felt to risk spread of tumor
- Technically demanding sometimes *
- Don't forget US guidance can be helpful
- Cytopathologist is key

Lab Tests & Imaging

- Play a smaller role than usual
- Blood work??
- C.T. scanning
 - Large/complicated mass
 - ? Remote primary

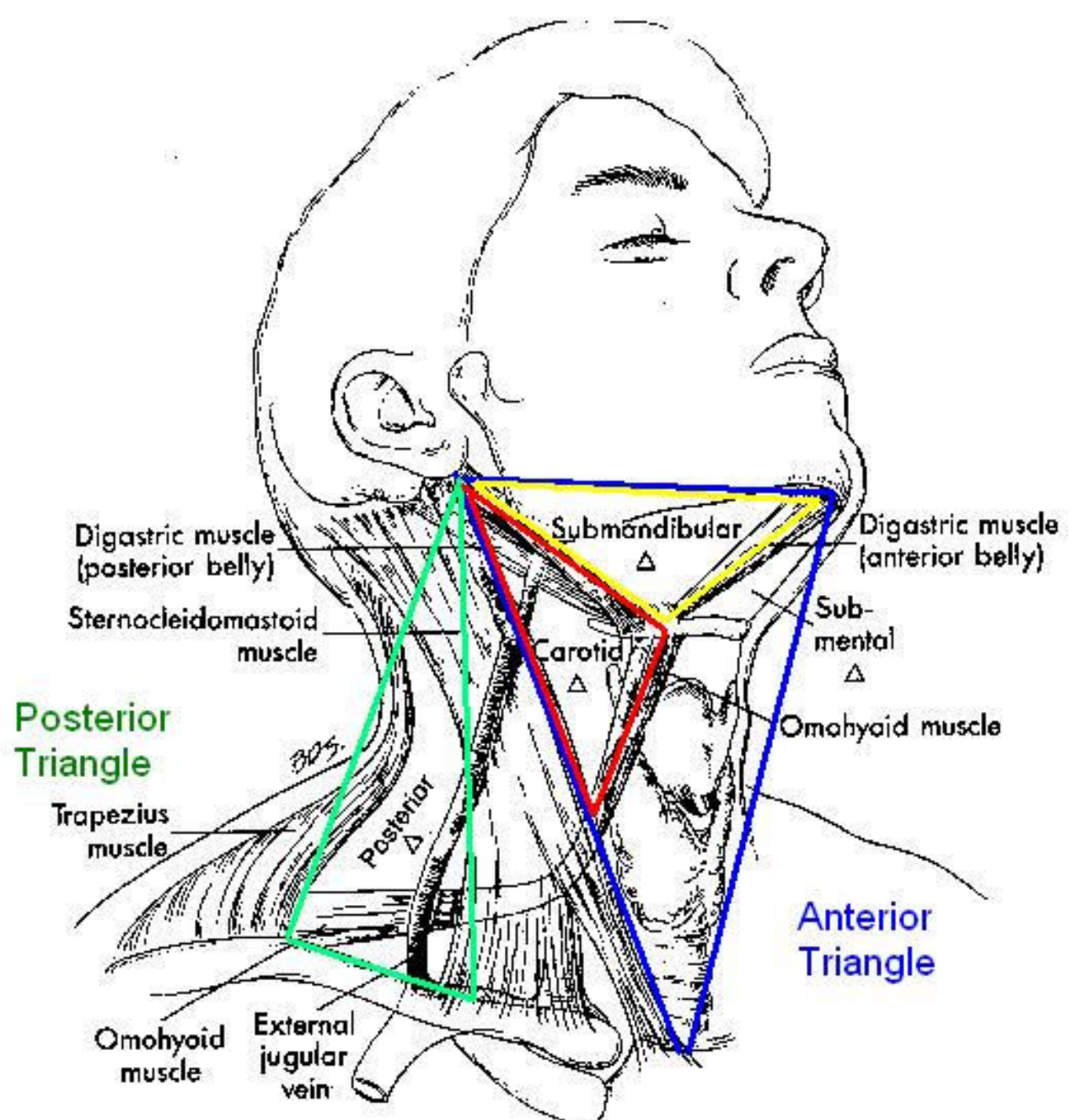
Differential Diagnosis Simplified

- Congenital Lesions *
- Salivary Gland Lesions *
- Thyroid Gland Lesions *
- Lymph Nodes *

Triangles of the Neck

Anterior
Submandibular
Submental
Carotid

Posterior

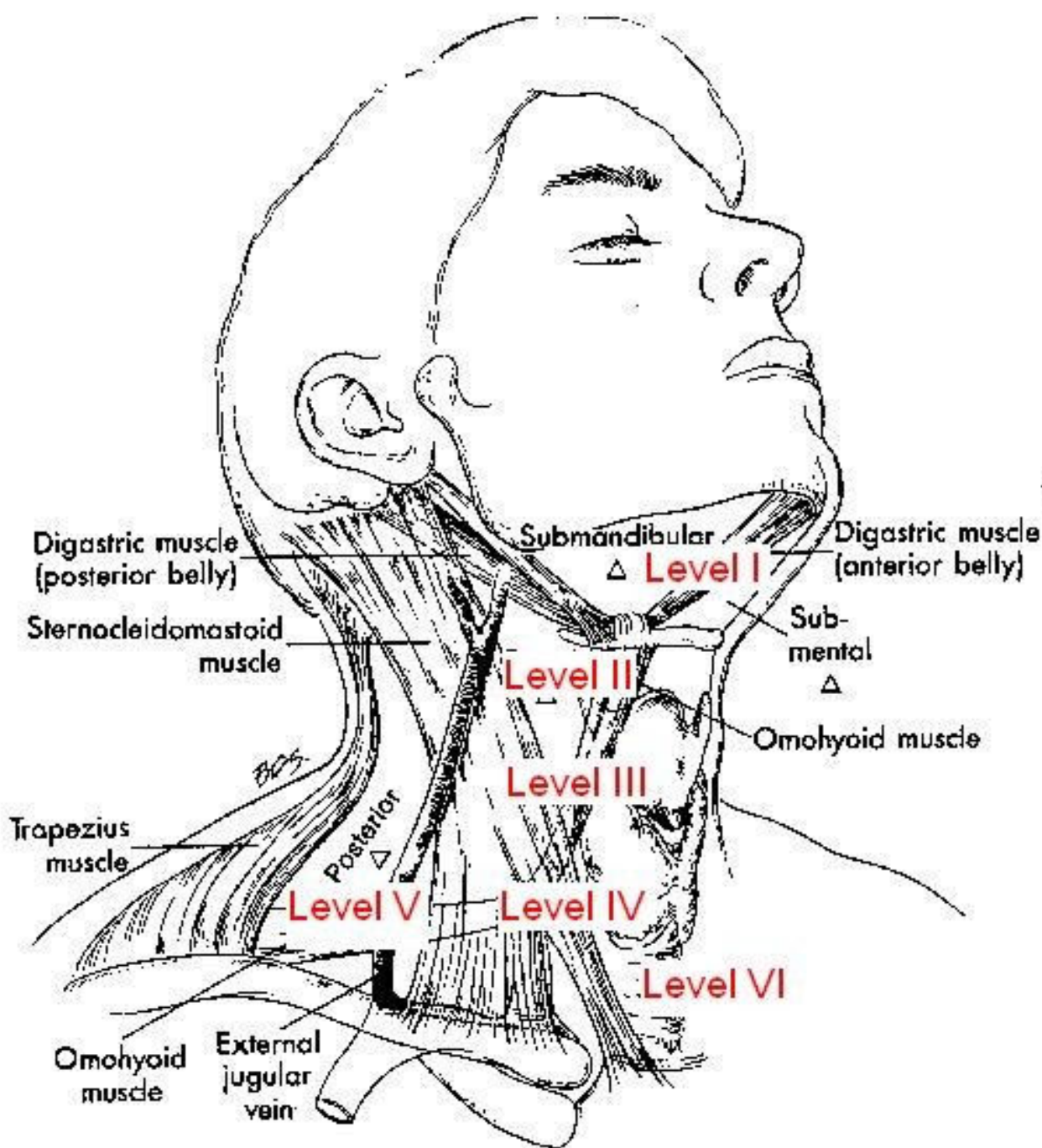


Triangles of the Neck

- Anterior
 - Submandibular
 - Submandibular gland
 - Submental
 - Dermoid, ranula
 - Carotid
 - Branchial cleft cyst, Carotid Body Tumour
- Posterior
 - Lipoma, Neurogenic tumor
- * Lymph node lesions can be anywhere *

Lymph Nodes

- Inflammatory
- Lymphoma
- Metastatic
 - Site of the node can help localize the primary
 - Supraclavicular nodes can be non head & neck 1⁰
 - Breast & Lung most common
 - GI tract, Prostate, Testicular
 - Eponym*

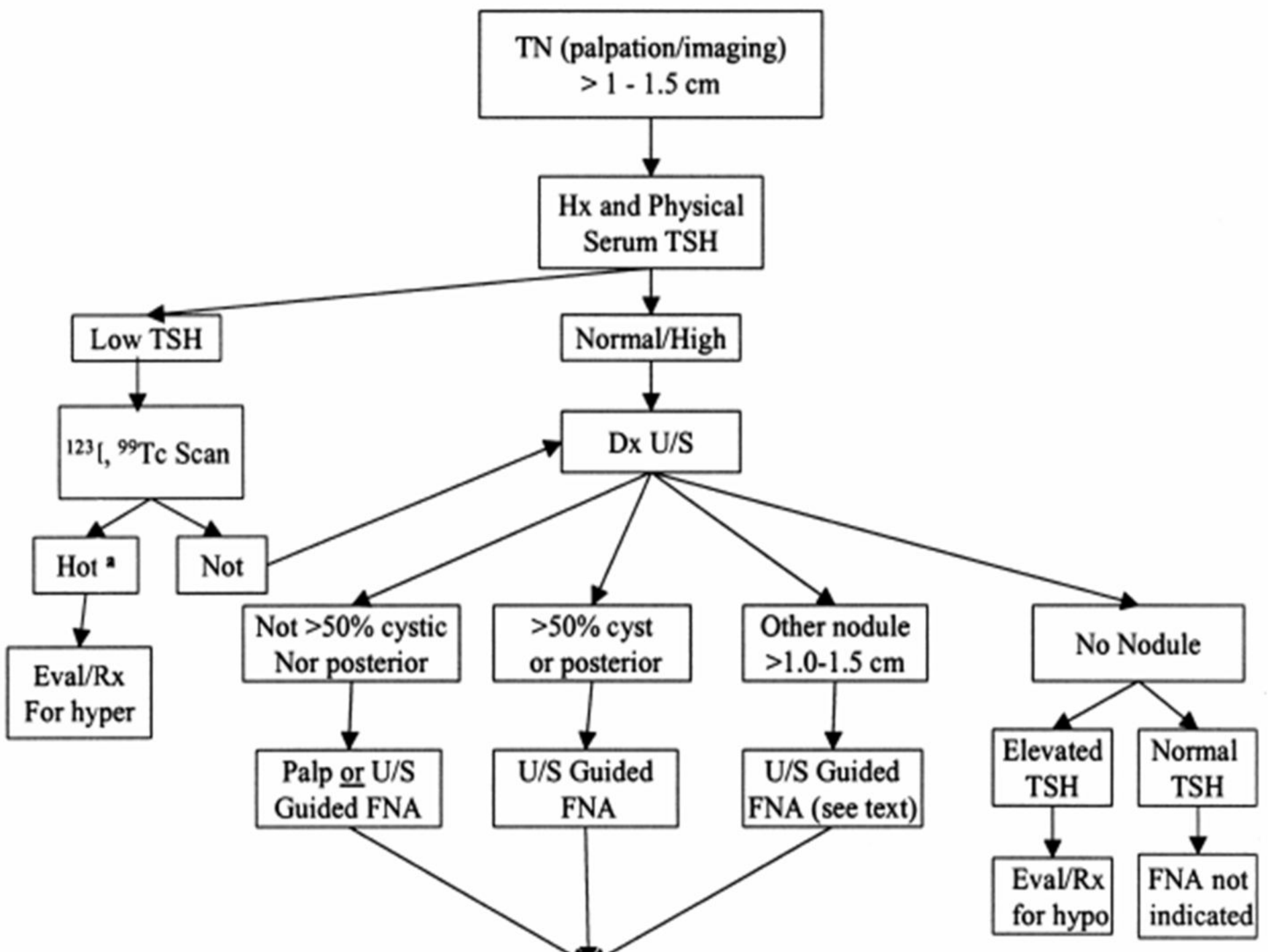


Lymph Node Levels Memorial Sloan-Kettering

Table 16-1. Cervical lymph node metastases by primary cancer site.

Lymph Node Site	Lymph Node Level	Primary Cancer Sites
Submental, submandibular	Level I	Lip, oral cavity, skin, salivary gland
Upper jugular nodes	Level II	Oral cavity, oropharynx, nasopharynx, hypopharynx, larynx, salivary gland
Mid-jugular nodes	Level III	Oral cavity, oropharynx, hypopharynx, larynx, thyroid
Lower jugular nodes	Level IV	Oropharynx, hypopharynx, larynx, cervical esophagus, thyroid
Accessory nerve nodes	Level V	Nasopharynx, scalp
Supraclavicular nodes	Level V	Breast, lung, gastrointestinal tract
Suboccipital nodes	Level V	Skin
Parotid nodes	Level V	Skin, parotid gland

Lymph Node Level Likely Primary Site



Cases

7 Year Old Boy

- Small lump middle of neck
- Asymptomatic
- Otherwise healthy
- Physical
 - 1.5cm, firm lump middle neck
 - Moves up with tongue protrusion
- What now?
 - ? FNA ? Eponym

65 Year Old Man

- Asymptomatic 2 cm lump Right submandibular triangle
- Chews tobacco, no EtOH
- Remainder history negative
- Physical
 - 2 cm firm lump ? Submandibular gland on Bimanual
 - Remainder negative
- FNA – Mucoepidermoid Ca
- What now?

38 year old Woman

- Asymptomatic
- Referred by GP for neck nodes
- History entirely negative
- Physical
 - Multiple nodes levels 3 & 4 Right side
 - Small nodule Right Thyroid
- Likely Diagnosis?
- FNA – Papillary Ca
- What now?

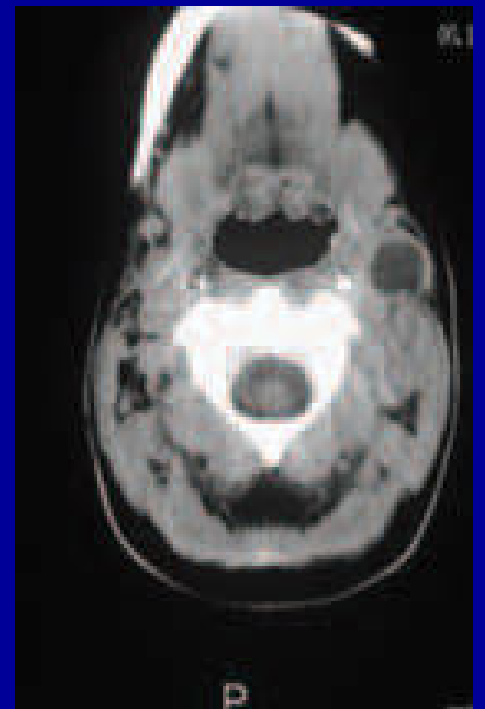
56 Year Old Man

- Asymptomatic Lump Left Neck
- Heavy Smoker, occasional EtOH
- No past history or family history
- Physical Exam
 - Hard lump L neck anterior triangle
 - Otherwise negative despite being thorough
- FNA – Squamous Cell Carcinoma
- What Now?

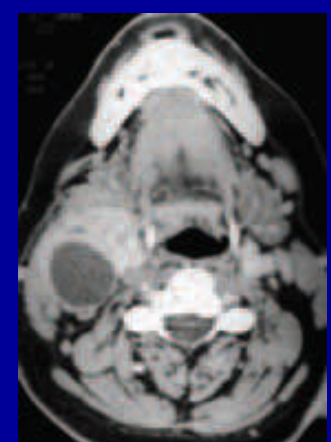
A 43-year old man notes shortness of breath. He is a non smoker. His wife points out that his face has become slightly swollen. On examination, his blood pressure is normal. His pupils are equal and respond to light. Dilated veins are noted around the shoulders, upper chest, and face. An x-ray of the chest reveals an opacity in the superior mediastinum. What is the most likely diagnosis?

- (A) Thymoma
- (B) Neurogenic tumor
- (C) Lymphoma
- (D) Teratodermoid tumor

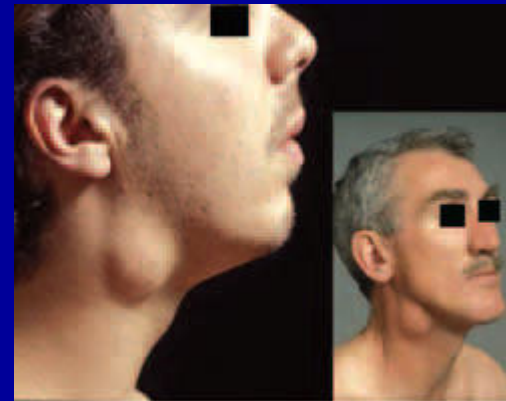
This 19 year old girl had a two-week history of a painless swelling in the left jugulo digastric region. FNAC demonstrated benign squamous cells, cellular debris and cholesterol crystals. CT scan demonstrated a well circumscribed cystic mass, anterior to the sternomastoid muscle. This is a typical ?



This young woman had a one-week history of a rapidly enlarging mass in the upper right neck with localised tenderness. The CT scan again demonstrates a well circumscribed unilocular cyst, with a smooth wall



This young man has a prominent painless lymph node in the jugulodigastric region. Fine needle aspiration biopsy indicated a diagnosis of Hodgkin's Disease. The 40 year old man (inset) has a lump in an identical position, also painless and present for months. Fine needle aspiration biopsy confirmed the diagnosis of metastatic squamous cell carcinoma from a tonsil cancer. He was a non smoker.



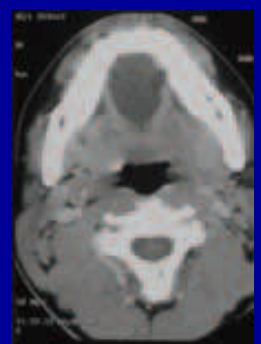
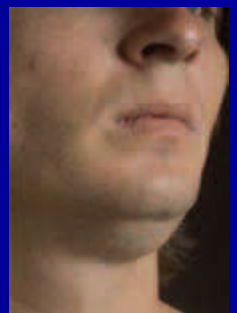
The man is 60, a heavy smoker and presents with a hoarse voice and large mass in the right upper neck. Fine needle aspiration biopsy showed necrotic debris and the CT scan demonstrates a unilocular cystic mass. The cyst wall is irregular and this is metastatic squamous carcinoma, which has undergone cystic degeneration. The primary cancer was in the hypopharynx



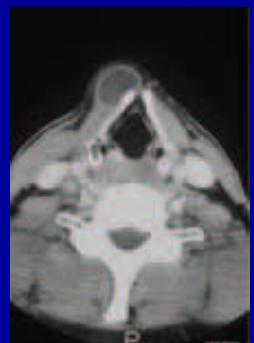
This man has nasopharyngeal carcinoma with multiple metastatic lymph nodes in the posterior triangle, bounded by the clavicle below, sternomastoid muscle anteriorly and the trapezius posteriorly..



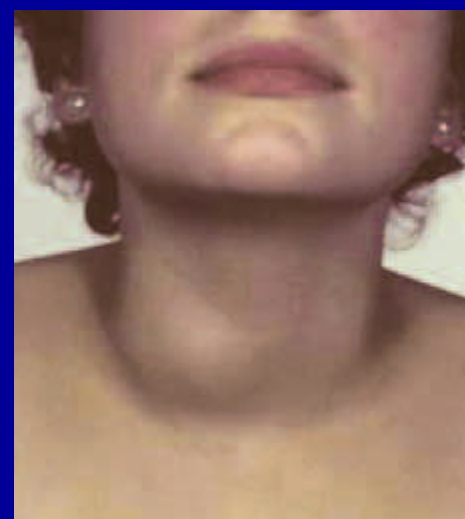
The young man had a firm, but not hard submandibular swelling which had been present for 5 years. The CT scan on the right demonstrates a midline dermoid cyst. This is a well localised benign congenital lesion.



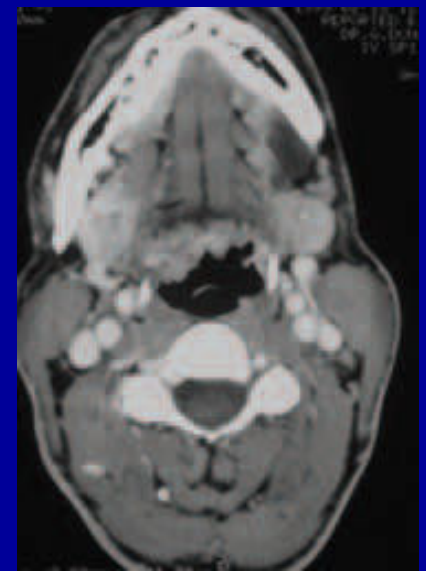
This young woman, aged 25, has a well localised swelling just below the hyoid bone, which elevates on protrusion of the tongue. The CT scan on the right is from another patient but demonstrates identical pathology of a well circumscribed cystic structure lying anterior to the thyroid cartilage - thyroglossal cyst.



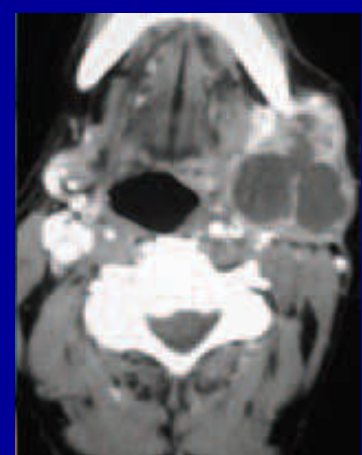
This young woman has a prominent right thyroid nodule. The appropriate investigations are FNAB and serum TSH.



This boy, aged 14, presented with a cystic mass in the left submandibular region. Needle biopsy demonstrated the presence of mucoid material and the CT scan shows a cystic mass lying anterior to the left submandibular salivary gland. This is a typical plunging ranula and is due to extravasation of mucoid saliva from the sublingual gland



This elderly man has a large left submandibular mass. An SCC of the cheek was removed a year earlier. FNAB showed metastatic SCC and the CT scan demonstrates a large cystic mass with a septum, consistent with metastatic cancer.



This 45 year old Asian woman, recently migrated to Australia, presented with a suppurating mass in the right submandibular region. A diagnosis of tuberculosis was made following culture of tissue from the mass



Questions/Comments