

Pharyngeal tumors

Pathology of pharyngeal tumors

Benign tumors

Benign epithelial tumors

Papilloma:- occurs commonly as a discrete pedunculated tumor in the the mouth, fauces, palate, tonsils

Mixed salivary tumor:- is always potentially malignant

Adenoma :- the most common site being in the palate

Benign connective tissue tumors

Fibroma , lipoma ,myxoma, muscle tumor ,haemangioma ,chordoma

Melanoma

Malignant tumors

Malignant epithelial tumors

Squamous cell carcinoma:-is by far the commonest tumor. It varies in type from highly keratinized to anaplastic

Polygonal cell carcinoma (lympho-epithelioma):- is next in order of frequency and occur more commonly in the proximal part than in the distal parts of the pharynx. Considered anaplastic carcinoma more common in younger patients and is highly malignant and radiosensitive.

Adenocarcinoma :- tumor of the seromucinous glands of the pharynx.

Adenoid cystic carcinoma:- arises in small salivary glands. Slow growing but malignant. Spreads by invading perineural space and following cranial nerves.

Malignant connective tissue tumors

Lymphoma:- both Hodgkin s non-Hodgkin s malignant lymphomas

Solitary plasmacytoma

Tumors of the Nasopharynx

Juvenile nasopharyngeal angiofibroma

PATHOLOGY

JNAs are benign, highly vascular lesions that occur almost exclusively in adolescent males. The lesions are locally expansile, usually growing in a pushing fashion but also possess the ability to infiltrate local structures. The site of origin of JNAs is felt to be at the junction of the sphenoidal process of the palatine bone and the pterygoid process of the sphenoid bone, just superior to the sphenopalatine foramen. The main blood supply to JNAs is the ipsilateral internal maxillary artery, usually its distal branches, that is, sphenopalatine or vidian artery. There can be contributions from internal carotid artery branches,

Clinical features

1. Progressive nasal obstruction.
2. Recurrent severe epistaxes.
3. Nasal speech (rhinolalia clausa).
4. Conductive deafness occurs from pressure on the Eustachian tube, usually of one side.
5. A smooth, lobulated, rubbery tumor is found in the nasopharynx. It is reddish or grey in colour.
6. Late features due to extension. Include:
 - Broadening of the nasal bridge (frog-face deformity).
 - Unilateral prominence of the cheek.
 - Displacement of the globe of the eye.

Histology

JNAs are unencapsulated neoplasms consisting of endothelially lined vascular spaces and fibrous connective tissue. The nasopharyngeal surface is lined by mucosa, giving the tumor a deceptively nonvascular appearance. Tumor angiogenesis may be promoted when androgens such as testosterone stimulate the secretion of growth factors. Although JNAs have increased expression of androgen receptors, administration of the androgen blocker flutamide does not produce a significant decrease in size of these tumors.

Evaluation

Both contrast-enhanced computed tomography (CT) scans and magnetic resonance imaging (MRI) are useful for evaluation of JNAs and their

relationship with important adjacent structures. As with most other tumors, CT scans typically provide more information about bone erosion, and MRI is most useful for assessment of soft tissue structures

MRI can help determine whether intracranial tumors are intradural or extradural

Angiography can be performed preoperatively to define and embolize the feeding vessels. Embolization is usually done within a day or two of the operative date.

the combination of clinical presentation, appearance on imaging studies, and risk of bleeding typically precludes the need for biopsy

Differential diagnosis

includes nasopharyngeal carcinoma, rhabdomyosarcoma, Kaposi sarcoma, neovascularized inflammatory polyps, teratomas, hemangiomas, and lymphoproliferative disorders.

Treatment

Surgery remains the primary treatment option for JNAs. Multiple external surgical approaches have been used for JNA, including lateral rhinotomy, transpalatal, transantral, and midface degloving approaches. Drawbacks of these external approaches include facial scarring and epiphora from a lateral rhinotomy and risk of palatal fistula from the transpalatal approach.

Certain JNAs can be resected using endoscopic surgery as a stand-alone procedure or in conjunction with open techniques.

Giant angiofibromas or those with intracranial involvement may require skull-base surgery with a combined otolaryngology–neurosurgery team. Radiation therapy has been used for tumors with intracranial extension, for tumors considered unresectable due to their proximity to structures such as the optic nerve.

NASOPHARYNGEAL CANCER

Squamous cell carcinoma

Epidemiology

NPC occurs with widely variable rates throughout the world. The disease is especially common among ethnic Chinese. Infection with the Epstein–Barr virus (EBV) is a known risk factor for a wide variety of lymphoid neoplasms, including NPC.

High consumption of salted fish and other preserved food, especially during childhood, has also been shown to be associated with higher rates of NPC. Heavy smokers have two to four times the risk of developing NPC compared to nonsmokers. Industrial exposure to formaldehyde and wood dust has also been shown to increase the risk of NPC

Clinical types

- 1- Proliferative :- sometimes polypoid giving rise to signs of obstructive in the nasopharynx.
- 2- Ulcerative :-when epistaxis may be a prominent feature.
- 3- Infiltrative :-in which neuro-ophthalmological signs result.

Clinical features

- 1- Metastases :-in the lymph nodes of the neck ,often the presenting sign
- 2- Symptoms of local invasion
 - Conductive deafness due to infiltration of the Eustachian tube ,this may proceed to secretory otitis media.
 - Pain in the side of the head due to involvement of 5th cranial nerve.
 - Elevation and immobility of the ipsilateral soft palate due to direct infiltration.
 - Lateral strabismus due to involvement of the 6th cranial n.
 - Exophthalmos from orbital invasion via the superior orbital fissure this leads to paralysis of the 2nd ,3rd ,and 4th CN.
 - Jugular foramen syndrome shown by pareses of the 9th ,10th ,11th CN.
- 3- Nasal obstruction
- 4- Epistaxis

Diagnosis

As with most neoplasms in nonvisible regions, an accurate history and physical examination and high degree of suspicion are crucial for early diagnosis of NPC. The clinician should examine the nasopharynx with Hopkins rod telescopes or flexible nasopharyngoscope. In tumors with submucosal spread, the nasopharynx can be normal despite extensive destruction of the underlying structures. A careful neurological examination should also be performed for assessment of CN abnormalities. Biopsies of the nasopharynx can often be done under local anesthesia in the office with the use of flexible or rigid endoscopes with sensitivities and specificities of greater than 95%. The neck should also be thoroughly examined since cervical lymph node involvement is so common, and fine-needle aspiration should be performed on suspicion nodes.

MRI with gadolinium enhancement is superior to CT scanning for distinguishing tumor from soft tissue,

assessing lymph nodal metastases, and detecting perineural spread of tumor and bone marrow involvement. However, CT imaging is better for detecting early signs of skull-base bone erosion and other bony destruction.

Classification

Tis carcinoma in situ

T0 no evidence of primary tumor

T1 Confined to nasopharynx

T2 Nasal cavity or oropharynx

(A) Without parapharyngeal extension

(B) With parapharyngeal extension

T3 Invasion of bony structures, paranasal Sinuses

T4 Cranial nerve, intracranial extension, orbit, hypopharynx, infratemporal fossa

Treatment

Due to its anatomic location and its tendency to present in an advanced stage, surgical resection is seldom possible for NPC radiotherapy, therefore, comprises the main component of treatment. . For more advanced tumors, the high incidence of locoregional and distant failures has led to a combined approach using chemotherapy in conjunction with radiotherapy

Tumors of the oropharynx

Benign tumors

- 1- Papilloma :-the common pedunculated papilloma of the tonsil, fauces and palate may be single or multiple
- 2- Adenoma :-rare the salivary gland tumor is the commonest adenoma and always be regarded as potentially malignant
- 3- Benign connective tissue tumors:- rare they include lipoma and fibroma which may be pedunculated or submucosal.
- 4- Neurilemmoma :-may appear in the lateral part of the pharynx behind the tonsil as an encapsulated tumor arising from the sheath of the vagus or other CN.
- 5- Haemangiomas formations :-occur in palate, tonsils, and posterior and lateral walls of the oropharynx

Malignant tumors
Squamous cell carcinoma

Aetiology

Occurs most commonly in a elderly form elderly males a less differentiated type is sometimes seen in younger patients. Tobacco and alcohol are believed to be important factors in aetiology

Site

The commonest site of origin is the tonsillo-lingual sulcus ,but the tumor may also arise from the tonsil itself ,from the palate or uvula and from lower part of the posterior wall of the oropharynx .there may be local infiltration into the tongue ,hard palate, and soft palate alveolus and mandible. Lymphatic metastasis appear in the upper deep cervical nodes.

Classification

Tis carcinoma in situ

T0 no evidence of primary tumor

T1 tumor 2cm or less in its greatest dimension

T2 tumor greater than 2cm but not more than 4cm in its greatest dimension

T3 tumor more than 4cm in its greater dimension

T4 tumor with extension to bone ,muscle, antrum ,neck

Clinical features

- Early :-

(a) A persistent sore throat often mild in charcter

(b) Slight difficulty in swallowing is sometimes the first symptom occasionally with referred ear pain

- Late

(a) Pain in the ear

(b) Enlarged cervical nodes

(c) Salivation

(d) Haemorrhage from the mouth ,the tumor is usually ulcerated and infiltration into the tongue causes it to be partly immobilized

Diagnosis

an accurate history and physical examination and high degree of suspicion are crucial for early diagnosis , A careful neurological examination should also be performed for assessment of CN abnormalities.Biopsies is essential . The neck should also be thoroughly examined since cervical lymph node involvement

is so common, and fine-needle aspiration should be performed on suspicion nodes.

MRI with gadolinium enhancement is superior to CT scanning for distinguishing tumor from soft tissue.

Treatment

- 1- External irradiation to the tumor and to the lymph nodes
- 2- Monoblock removal :- wide removal of the tumor and cervical nodes
- 3- Cytotoxic drugs:- mostly palliative and relief of pain

Tumors of the hypopharynx

Malignant tumor

Squamous cell carcinoma

The commonest neoplasm and all grades of differentiation are seen

Classification

Tis Carcinoma in site.

T0 No evidence of primary tumor.

T1 Tumor confined to one site.

T2 Tumor with extension to adjacent site or region without fixation of hemi-larynx.

T3 Tumor with extension to adjacent site or region with fixation of hemi-larynx.

They are best name according to their position :

1- Pyriform fossa

Clinical features :

- The largest group,commoner in men than women.
- Pain on swallowing radiates to the ears.
- Increasing dysphagia.
- A hard mass high in the neck is usually direct extension of tumor rather than a nodal metastasis and is often the first sign.
- Horseness indicates infiltration or odema of the larynx or paralysis of the recurrent laryngeal.

Diagnosis:

A pool of mucous in the pyriform fossa may be seen on indirect laryngoscopic, and abrium swallow often indicate the size of tumor. Endoscopy is always necessary for biopsy and to assess the extent of the disease.

Treatment ;

- 1- Surgical removal by pharyngo-laryngectomy together with homolateral servical nodes as a monoblock dissection.
- 2- Radiotherapy is used by Some as the method of choice,radiotherapy is also employed as a palliative measure in inoperable cases.
- 3- Cytotoxic drugs may be helpful as adjuncts to either surgery or radiotherapy

2- Posterior and lateral pharyngeal wall :

Clinical features:

- Commoner in men than women,dysphagia as resulting symptoms
- Spitting of blood may be the first sign when the tumor is traumatized by food.
- The midline position of the posterior tumor make by lateral lymph node metastasis frequent.
- Endoscopy and radiography are essential.

Treatment:

Most are treated by external irradiation specially as many of these growths tend to be anaplastic, one or two courses of combination chemotherapy may be given few days before radiotherapy. In few cases small growth can be removed surgically.

3- Postcricoid Carcinoma

Situated between the upper border of the cricoids cartilage above and the esophageal opening below, 90% occur in females. Lateral extension form an annular growth while downward extension invade the esophagus.

Clinical features;

- Dysphasia is predominant symptom.
- The patient some times as young as thirty.
- This is may be associated with hypochromate microsytic anemia.
- Lymph node metastasis are often bilateral.

Diagnosis :

Endoscopy and radiography are required to assess the extent of the tumor and especially to define it's lower border. Lateral views may show an increase in the distance between the vertebral column behind and the larynx and trachea in front. Barium swallow should be done always.

Treatment ;

Surgery is made by many but the prospect of cure is poor with any form of treatment.

(pharyngolaryngotomy and pharyngo- esophago-laryngotomy)

Many hold that radiotherapy deserves initial trial in most if not all cases.