Management of Paranasal tumors

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Introduction

- Rare and biologically heterogeneous group of cancers
- Most cases do not cause early symptoms and Often present in advance stage
- Earlier Clinical trials in head and neck region– Based on anatomy than histiogenesis

PRINCIPLES OF EVALUATION

- Pathologic assessments(molecular markers, Immuno histochemical markers)
- Endoscopic approach or open approach with effective reconstruction
- Advances in imaging(MRI/PET CT) and radiotherapy techniques(IMRT/IGRT)
- Newer chemotherapeutic agents

SITE OF ORIGIN

- Maxillary sinus (60%)
- Nasal cavity (20%)
- Ethmoid sinuses (5-15%)
- Frontal and sphenoid sinuses(3%)
- **Cell of origin**:Histopathologic components of sinonasal cavities,minor salivary glands,neural tissue and lymphatics

Risk factors

- Adenocarcinoma:Hardwood dust exposure,chrome pigment,clothing and leather
- Sqamous cell carcinoma:Nickel,soft wood dust,mustard,asbestos
- Malignanat transformation of Inverted pappiloma to Sqamous cell carcinoma

Histological subtypes

- Epithelial : **Squamous cell carcinoma, Adenocarcinoma**
- Salivary-gland type tumors: **Adenoid cystic carcinoma**, Mucoepidermoid carcinoma, Acinic cell carcinoma

- Neuroectodermal : Melanoma, **Olfactory neuroblastoma**
- Neuroendocrine : **Sinonasal tumors with neuroendocrine differentiation**

Diagnostic evaluation

- Endoscopic examination with biopsy
- Radiographic imaging: Computed tomography (CT) and magnetic resonance imaging (MRI)
- Metabolic imaging :In selective group of patients to rule out distant metastases
- Multidisciplinary oncologic discussions
- Staging (

PROGNOSTIC FACTORS

- Tumor stage
- Nodal involvement
- Tumor histology

Sqamous cell carcinomas

- Most commonly encountered malignant neoplasms
- Keratinizing and nonkeratinizing types
- In 1% to 7% association with inverted Papilloma.
- Paranasal sinuses >nasal cavity
- Basaloid variant of SCC has a more aggressive biological behavior.

Sqamous cell carcinomas

- Early-stage disease (T1/T2) arising from the nasal cavity can be effectively managed by single-modality treatment (surgery or radiotherapy).
- Advanced-stage disease (T3/T4) requires a combined approach(Surgery followed by post op radiotherapy) .
- T4B any N radical chemo RT
- Elective treatment of the neck may be considered, especially when the SCC of the paranasal sinuses has invaded the overlaying soft tissue or adjacent bony structures.
- The 5-year survival rates reported for SCC of the paranasal sinuses and the nasal cavity range from 40% to 70%.

Adenocarcinomas

- Present most frequently in the ethmoid sinuses
- Salivary-gland vs Non–salivary gland
- Non–salivary gland -intestinal vs nonintestinal types.
- Intestinal-type carcinomas are generally aggressive with a local recurrence rate of up to 50%, lymphatic spread in 10%, and a distant metastasis rate of 20%.

Adenocarcinomas

- Surgical excision followed by radiotherapy is favored in many centers throughout the world.
- An open radical craniofacial resection followed by adjuvant radiotherapy needs to be scheduled because the disease is usually recognized in an advanced stage.
- In carefully selected patients, a curative endoscopic approach may be considered.
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Adenoid cystic carcinomas

- Surgical treatment with negative surgical margins is the gold standard for treating ACC.
- Postoperative radiation is used to achieve better local control, although the association with increasing survival remains controversial.
- Systemic therapy has been shown to benefit some patients with recurrent, metastatic, and/or unresectable disease.