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
• Squamous cell carcinoma: Nickel, soft wood dust, mustard, asbestos
• Malignant transformation of Inverted papilloma to Squamous 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.
Squamous 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.
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.