Intranasal/intracranial lesions

Lesions within the nose that may communicate with the intracranial cavity:

1. infectious

a) tuberculosis

b) syphilis

c) Hansen’s disease (leprosy) d) fungal infections,especially:

e)

f)

g)

● aspergillosis

● mucormycosis: seen primarily in diabetics or immunocompromised patients

● Sporothrix schenckii

● Coccidioides

Wegener’s granulomatosis: necrotizing granulomatous vasculitis of the upper and lower respiratory tracts with glomerulonephritis and nasal destruction

lethal midline granuloma : a locally destructive lymphomatoid infiltrative disease that may not have true granulomas, and may also cause local nasal destruction. However, renal and tracheal involvement do not occur as in Wegener’s granulomatosis polymorphicreticulosis:maybeanasallymphoma.Possiblythesamediseaseaslethalmid- line granuloma (see above)

2. mucocele: a retention cyst of an air sinus that results from an occluded ostium and may cause expansive erosion of the involved sinus. Often enhances with IV contrast (MRI or CT), and may contain mucus or pus

3. neoplasms

a) carcinoma of the nasal sinus b) c) d)

● squamous cell

● glandular

● nasopharyngeal carcinomas: may be related to Epstein-Barr Virus (EBV) infection

● sinonasal undifferentiated carcinoma (SNUC):

distinct from lymphoepithelioma (less keratinizing). Rare, aggressive carcinoma (a more lethal variant

of squamous cell carcinoma) with poor prognosis. Incidence may be higher with prior XRT and in woodworkers and nickel factory workers. May invade adjacent structures, those relevant to neurosurgeons: frontal fossa and cavernous sinus. No relation to EBV. Treatment: tri-modal therapy (XRT, chemotherapy, and salvage surgery) esthesioneuroblastoma or aesthesioneuroblastoma AKA olfactory neuroblastoma: named for the stem cell of the olfactory epithelium (esthesioneuroblast). A malignant tumor arising from crest cells of the nasal vault, often with intracranial invasion. Very rare (≈ 200 reported cases). Presents with epistaxis (76%), nasal obstruction (71%), tearing (14%), pain (11%), diplopia, proptosis, anosmia, and endocrinopathies.57 Treatment: surgical resection followed by XRT, ± chemotherapy

metastatic tumors: very rare, possibly with renal cell carcinoma benign tumors

● frontal meningioma: rarely erodes into nasal cavity

● rhabdomyoma

● benign hemangiopericytoma

● cholesteatoma

● chordoma

4. congenital lesions

a) encephalocele: a nasal polypoid mass in a newborn should be considered an encephalocele until proven otherwise.

Classifications:

● cranial vault

● frontal ethmoidal

● basal

● posterior fossa

b) nasal glioma:non-neoplastic glial tissue located within the nose, often conceptually and diagnostically confused with an encephalocele. The term “glioma” is a misnomer, and nasal glial heterotopia is preferred. Does not communicate with the subarachnoid space