Frontal sinus encephalocele masquerading as a nasal poly and mucocoele: Beware the posterior table defect

CPT Renee L. Makowski, MD; COL John J. Simmer, MD
Department of Otolaryngology, Madigan Army Medical Center  Tacoma, Washington

ABSTRACT

Objective: To present a case report of a frontal encephalocele that mimicked as a nasal poly and erosive mucocoele

Methods: Report of a unique case with discussion of possible preventable pitfalls and review of the pertinent literature.

Results: 60 year old male presented with 9 months of worsening unilateral nasal obstruction, chronic rhinorrhea, and frontal sinus pressure. He failed medical management and denied recurrent sinuses, nasal polyps, sinus surgery, or head trauma. Examination revealed a large polyloid mass appearing to emanate from the middle meatus, nearly occluding the left nasal cavity. Pre-operative CT demonstrated a soft tissue mass containing the left nasal cavity, opacifying the ethmoids and frontal sinus. A small bony dehiscence was appreciated in the inferolateral portion of left frontal sinus posterior table. This was thought to be erosion from a polypl or possible mucocele. No other evidence of bony expansion or obstruction was noted.

Conclusions: Encephaloceles are most commonly reported in pediatric populations, or adults with prior trauma or iatrogenic injury. This case report, with associated photographs and imaging studies, demonstrates an unusual patient presentation of sinus pathology that may warrant more extensive pre-operative history and work up.

CASE REPORT

• 60 year old man presented with left sided nasal obstruction for nine months.
  • The obstruction was slowly progressive and interfering with his ability to tolerate continuous positive airway pressure (CPAP).
  • He also had aural fullness and frontal sinus pressure refractory to nasal irrigations, steroids, and oral decongestants.
  • He denied recurrent sinus infections, nasal polyps, allergies, vision changes, prior sinus surgery, or head trauma.
  • Though he denied problems, his past medical history did report chronic rhinitis.

• Examination revealed a right deviated nasal septum and large polyloid mass almost completely occluding the left nasal cavity. It appeared to emanate from the left middle meatus.
  • CT scan (Image 1) revealed a soft tissue mass that extended into the nasopharynx, involved the ethmoids and opacified the frontal sinus. A small bony dehiscence was appreciated in the inferolateral portion of left frontal sinus posterior table. This was thought to be erosion from a polyp or possible mucocele. No other evidence of bony expansion or obstruction was noted.

• Due to the extreme lateral location of the dehiscent segment, neurosurgery performed a bifrontal craniotomy and the encephalocele was ligated. (see intra-operative photo)
  • The small bony dehiscence was adequately repaired with primary patching.
  • The patient tolerated the procedure and he recovered with no untoward sequelae.
  • To our knowledge, this is the first report of an encephalocele located in the lateral posterior table.

DISCUSSION

• Encephaloceles are herniations of intracranial contents through the skull named by the contents of the herniated sac.

• Meningoencephaloceles contain meninges and brain.
  • Types of encephaloceles
    • Congenital
    • Acquired
    • Traumatic
    • Injury vs. iatrogenic
    • Spontaneous/non-traumatic
    • High vs. normal pressure

• Though presenting with nasal obstruction, pointed questioning may have elucidated the history of CSF rhinorrhea

• To our knowledge, this is the first report of an encephalocele located in the lateral posterior table.

REFERENCES

• Phatak SV, Rajendra D. IMAGES: Rare type of frontonasal encephalocele. Indian J Radiol Imaging 2006;16:39-11.