



# What is Your Radiologic Diagnosis?

## Radyolojik Tanınız Nedir?

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A 17-year-old male patient presents to the emergency service with headache and fever ongoing for three days and swelling on the frontal region for the last one day. The patient's temperature measured in the emergency service is 37.8°C, and his physical examination reveals edema and ptosis secondary to edema on his left eyelid and purulent secretion in the left nasal cavity. Patient's vision and eye movements are evaluated normal. Laboratory blood tests detect elevated C-reactive protein and leukocytosis with neutrophil dominance. Waters' view of the patient shows total aeration loss in the left maxillary sinus (Figure 1). Magnetic resonance imaging (MRI) of the patient's brain is taken administering intravenous contrast media. MRI shows extensive T2 hyperintense fluid signals (green arrows, Figures 2 and 3) and distinctive mucosal thickening (yellow arrows, Figure 2) in the left maxillary sinus, ethmoidal cells and in the left parts of the sphenoid and frontal sinus. Increased signals and contrast enhancement (blue arrows, Figure 3) are observed at the frontal space in favor of edema in the cutaneous and subcutaneous soft tissue planes. In the frontal region, T2 hyperintense fluid collection, 8 mm in depth, accompanied by peripheral contrast enhancement (red arrows, Figure 3) just anterior to the frontal bone and thinning-demineralization in the external cortex of the frontal bone are observed (white arrows, Figure 3). Findings of pathologic imaging are not detected in the intracranial plane. What is your diagnosis considering MRI findings?



**Figure 1.** Waters' view.

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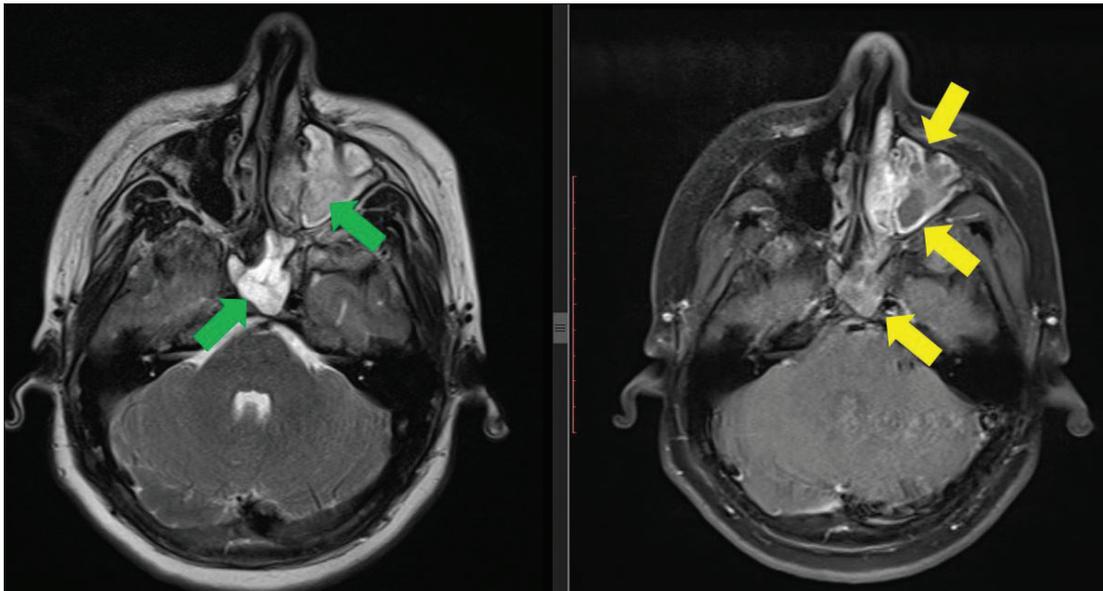
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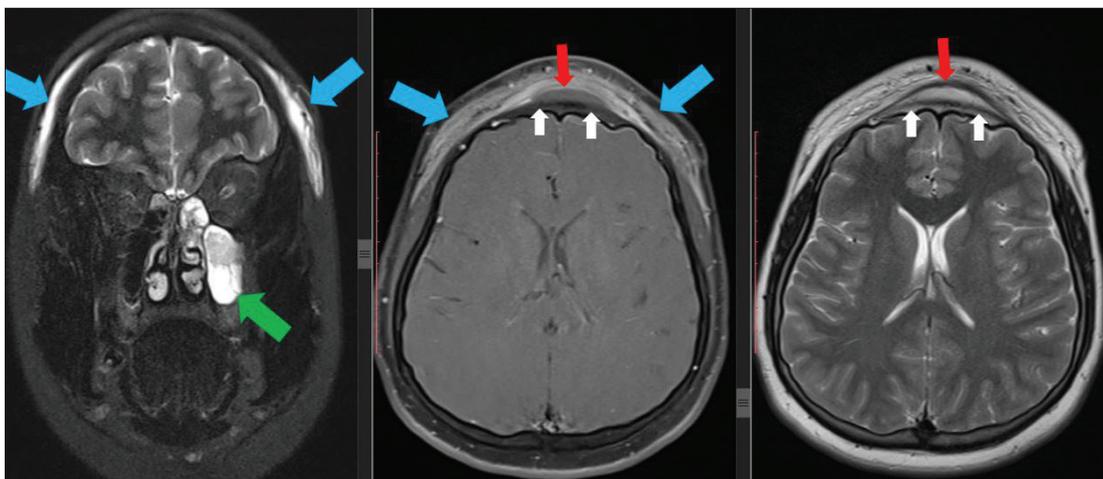
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**Figure 2.** Sections of axial magnetic resonance imaging of T2 weighted and contrast enhanced fat-suppressed T1 from left to right.



**Figure 3.** Sections of coronal magnetic resonance imaging fat-suppressed T2, and axial contrast enhanced fat-suppressed T1 and T2 weighted from left to right.

### DIAGNOSIS: "Pott's Puffy" Tumor

Minimal purulent content is aspirated by the puncture performed on the collection of the fluid observed in the frontal region of the patient. Pott's Puffy tumor complication after acute sinusitis is diagnosed in the patient whose clinical findings completely regressed following intravenous antibiotherapy administered for ten days.

**Short discussion:** "Pott's Puffy" tumor is a complication characterized by subperiosteal abscess and osteomyelitis that generally develop after acute frontal sinusitis. This non-neoplastic lesion was first described by Sir Percivall Pott in the year 1760. Its incidence is higher in young adolescents. Its possible intracranial complications include epidural abscess, subdural empyema, meningitis and cerebral abscess, and dural sinus thrombosis (1). Cross-sectional imaging techniques may de-

tect collection in the frontal region and thinning and mineralization loss in the external cortex of the frontal bone along with sinusitis findings (2). Intracranial complications can be better identified with MRI. Although its treatment depends on the case and accompanying complications, the treatment is typically abscess drainage and long-term intravenous antibiotherapy (3).

### References

1. Masterson L, Leong P. Pott's puffy tumour: a forgotten complication of frontal sinus disease. *Oral Maxillofac Surg* 2009;13:115-7. [\[CrossRef\]](#)
2. Durur-Subasi I, Kantarci M, Karakaya A, Orbak Z, Ogul H, Alp H. Pott's puffy tumor: multidetector computed tomography findings. *J Craniofac Surg* 2008;19:1697-9. [\[CrossRef\]](#)
3. Suwan PT, Mogal S, Chaudhary S. Pott's puffy tumor: an uncommon clinical entity. *Case Reports in Pediatrics* 2012;2012:386104. [\[CrossRef\]](#)