



# FRONTAL SINUSITIS UNVEILED: THE CULPRIT OF POTTS PUFFY TUMOR

Dinie Qistina Rajalie, Noor Elyana Ahmad Fawzi

Department of Otorhinolaryngology, Hospital Kuala Lumpur

## INTRODUCTION

Pott's puffy tumor (PPT) is named after Pervical Pott, who initially described this condition in 1768. It occurs as a sequela of frontal sinusitis or trauma, progressing as osteomyelitis of the frontal bone with associated subperiosteal abscess. PPT is predominantly reported in the childhood and adolescent age group. The presenting clinical symptoms include headache, swelling of the forehead, orbital swelling, chills, fever and rhinorrhea.

## CASE REPORT



Figure 1

A 59 years old, Malay, lady presented with complaint of painful right forehead swelling for the past 2 weeks, which was gradually increasing in size. The patient reported visiting the hospital for similar complaints more than 20 years ago and was treated with antibiotics and nasal surgery. Clinical examination revealed a right frontal swelling measuring 2cmx2cm, firm and tender upon palpation, smooth surface, not erythematous, no punctum and no overlying skin changes (Figure 1).

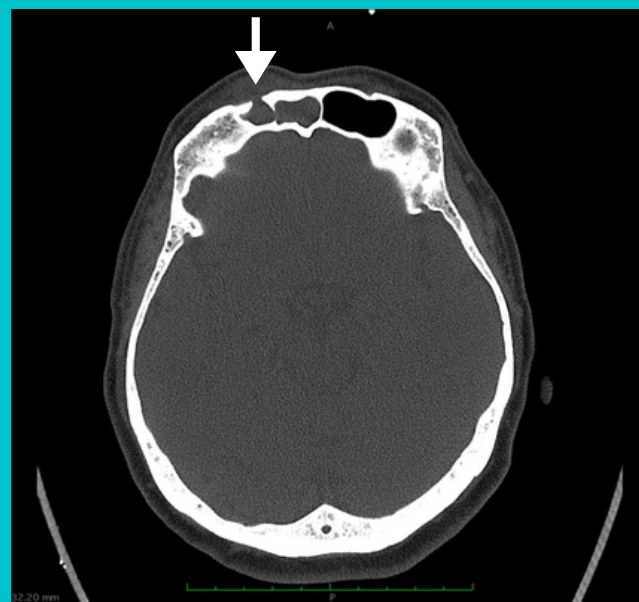


Figure 2a



Figure 2b

Contrast enhanced CT brain and paranasal sinuses shows evidence of pansinusitis with right frontal subgaleal collection with erosion of the underlying bony frontal sinus wall, suggestive of Potts Puffy tumor (Figure 2a, 2b).

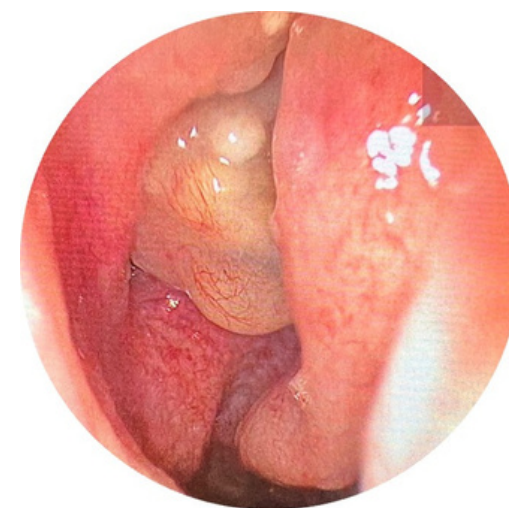


Figure 3: Nasal endoscopy shows polyp at bilateral osteomeatal complexes with minimal mucopus.

The patient was treated with intravenous antibiotics for 14 days and started on intranasal steroid spray, regular nasal douching and analgesia. The swelling and pain resolved with medications and she was subsequently discharged with oral antibiotics for another week. Upon assessment during clinic follow up, patient was offered endoscopic nasal surgery, however, patient refused surgical intervention in view of resolved symptoms and advanced age.

## DISCUSSION

Potts puffy tumor is a classical sign of frontal sinus osteomyelitis. The pathophysiology of frontal bone osteomyelitis in PPT disease can be caused by direct involvement of the infection or the hematogenous spread, which takes place through the connection of the frontal sinus with the dural venous networks and connection to the diploic veins. If a patient presents with swelling of the forehead, osteomyelitis of the frontal bone should be suspected, and CT and MRI imaging should be performed. CT scan is useful in revealing the presence of epidural or subdural abscess and to estimate the extent of bone erosion, whereas MRI scan can detect intracranial involvement. Once diagnosis is established, depending on the severity of complications, treatment of PPT ranges from broad-spectrum antibiotics to surgery (ie functional endoscopic sinus surgery or frontal craniotomy, followed by subdural empyema and subperiosteal abscess drainage).

## CONCLUSION

Potts puffy tumor is a rare but serious consequence of chronic frontal sinusitis or head trauma. Timely recognition and appropriate management are crucial to prevent complications and achieve successful outcomes for patients.

### REFERENCES:

- Jalali E, Vaddi A, Rengasamy K, et al. (January 06, 2023) Pott's Puffy Tumor, a Forgotten Complication of Sinusitis: Report of Two Cases. Cureus 15(1): e33452. DOI 10.7759/cureus.33452
- Vadiee G, Beshali M, Jahangiri S, Eghlidis Z, Rahimian Z, Mirzaei F. Pott's puffy tumor: A case report. Clin Case Rep. 2023;11:e7815. DOI:10.1002/ccr3.7815