INTRODUCTION
Tuberculosis has been known to mankind since the age of Hippocrates. Immunocompromised hosts offer a fertile soil for Mycobacterial disease. Unusual clinical presentations form a separate clinical entity and a challenge. Sino-nasal tuberculosis, rare in its nature, only five such cases have been reported in the literature. We present two such cases to illustrate that unusual forms of tuberculosis that have not disappeared among the elderly. Diagnosis of tuberculosis should be considered in cases in which the histological appearances suggest granulomatous disease.

Tuberculosis of the maxillary sinus is nearly always secondary to pulmonary or extra pulmonary tuberculosis wherein the infection reaches the sinus either via the bloodstream or by direct extension. Two types of pathology are significant in such cases, first type features submucosal infection where the antrum is filled with polyps and thickened mucosa which has a pale and boggy appearance with minimal purulent discharge making the diagnosis difficult and second type though rare is more aggressive characterized by bony involvement and fistula formation.

CASE REPORT 1
A 75 year old man with a history of diabetes of long duration presented to us with complaints of nasal pain, bitemporal headache and pain over the eyes since 20 days duration associated with bleeding from the right nostril since 1 day. Local examination revealed swelling and tenderness over the region of right medial canthus with a mild degree of proptosis of the right eye. On nasal endoscopy granulations were present near the region of the sphenoid ostium, the superior meatus on the right side; the anterior rhinoscopic findings were confirmed. X-ray PNS showed pan sinusitis.

CT Scan revealed disease involvement of the Fronto-ethmoid and right sphenoid sinuses (Fig. I & Fig. II) and also showed sub periosteal abscess on the right side with thickening of the right medial rectus. Ophthalmologist was of the impression of mixed retinopathy with CSME right eye. Further the haematological, serum electrolytes, renal, hepatic and urine parameters were within normal range but ESR was found to be high. He underwent transnasal endoscopic sphenoidectomy and drainage of pus from the right frontoethmoid area. Histopathology of the tissue revealed a granulomatous lesion consistent with tuberculosis. A chest X-ray was done but showed no evidence of tuberculosis. Sputum for Acid fast bacilli and Mantoux test proved negative. Patient was subsequently treated with antitubercular regimen for a period of nine months. On subsequent 18 months follow up, sinus was healthy and the patient remained asymptomatic.

CASE REPORT 2
A 50 year old lady who is a known diabetic presented to us...
with complaints of purulent left sided nasal discharge since 3 weeks. Past history revealed repeated attacks of upper respiratory tract infection which usually subsided with a course of antibiotics. On local examination mucopurulent discharge was found in the region of the left middle meatus which was confirmed on diagnostic nasal endoscopy. X-ray PNS showed mucosal thickening in the left maxillary sinus suggestive of chronic sinusitis. CT scan revealed left maxillary sinusitis with no evidence of bony destruction. Her blood, urine, renal, hepatic and serum electrolytes level was within normal. On admission she underwent transnasal endoscopic sinus clearance and on histopathological examination of the tissues it revealed a granulomatous lesion suggestive of tuberculosis. A chest X-ray found no evidence of bony destruction. Her blood, urine, renal, hepatic and serum electrolytes level was within normal. On admission she underwent transnasal endoscopic sinus clearance and on histopathological examination of the tissues it revealed a granulomatous lesion suggestive of tuberculosis. A chest X-ray found no evidence of tuberculosis. Sputum for Acid fast bacilli and Mantoux Test were negative. Patient was started on antitubercular regimen for a period of 9 months. On subsequent followup, sinus was healthy and patient remains to be asymptomatic.

**Histopathology**

Sections of the tissue sent for histopathological examination in Case 1 showed multiple epithelial granulomas, some of which were caseating. Langerhans giant cells were also noted (Fig. III). The tissue sent in Case 2 showed a single epithelial granuloma. Acid fast bacilli stain did not show any organism in either case. There was no evidence of vasculitis in either case. Inference drawn in these cases was an epitheloid granuloma seen in the respiratory tissue.

**DISCUSSION**

Sino-nasal Tuberculosis is rare. Sinuses are affected either via the blood stream or by direct extension. There are two types of pathology involved. The first featuring only submucosal infection and the second being the more aggressive type with bony involvement. Shukla et al (1972) reported a case of tuberculosis of the maxillary sinus that also featured an abscess of the brain. Jain et al (1979) reported that orbital involvement can manifest as epiphora and deterioration of the vision. Ellis (1979) reported an interesting case of extrapulmonary maxillary sinus tuberculosis in immigrants who entered the USA. Gentric A et al (1992) reported two cases of nasal tuberculosis in the elderly patients who presented with history of nasal obstruction and for whom tuberculosis was initially misdiagnosed. Nasal discomfort is not always a benign condition and the diagnosis of tuberculosis has to be considered first when histologic examination shows granulomatous lesion. Vrat. V et al (1985) pointed out that maxillary sinus tuberculosis has been rarely associated with carcinoma which is of significance as a prognostic indicator. Devanand et al (2002) reported an interesting case of tuberculosis of the maxillary sinus manifested as a facial abscess.

The risk of acquiring infection with *M. tuberculosis* is determined by exogenous factors, whereas the risk of developing disease after being infected depends largely on endogenous factors like the innate susceptibility of the individual to the disease and the level of function of cell mediated immunity. Several observations suggest that genetic factors also play a key role in innate non immune resistance to infection with *Mycobacterium tuberculosis*. Growth of *M. tuberculosis* inhibited within a necrotic environment by low oxygen tension, low pH but high oxygen concentration favours its growth which possibly explains the reactivation of infection in the sinuses.