Tuberculous Abscesses of The Brain

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Abstract
Tuberculous abscess (TA) of the brain is a very rare entity and is characterized by encapsulated collection of pus without evidence of classical granulomas. With the advent of AIDS, more cases are being diagnosed, but very few have been reported in immunocompetent individuals. We present a case of TA occurring in a 27-year-old immunocompetent, HIV negative patient. At autopsy, the brain showed multiple encapsulated necrotic areas, 0.5 to 2 cm in diameter, which showed only caseous necrosis with total absence of granulomatous reaction. AFB stain showed plenty of tubercle bacilli and confirmed the diagnosis of tuberculous abscess. TA has to be differentiated from the more commonly occurring tuberculomas. Most cases of tuberculomas respond to multidrug therapy, while the definitive treatment in TA is surgical excision with a complete course of antitubercular drug therapy.

Introduction
The most severe form of TB is that involving the central nervous system (CNS). Mycobacterium tuberculosis affects the brain in various forms. Tuberculous abscess is a very uncommon manifestation of CNS tuberculosis.1 The rarity and importance of identifying this entity prompted this case report. We present a case of tuberculous abscess of the brain in a 27-year-old, HIV negative, immunocompetent patient.

Case Report
At autopsy, the brain weighed 1.2 kg and was oedematous with tonsillar prominence. The meninges were hazy. On cut sections of the brain, there were multiple encapsulated necrotic areas 0.5 - 2 cm in diameter in the cerebrum and cerebellum. Microscopy revealed large areas of caseous necrosis surrounded by fibrous wall with total absence of granulomatous reaction (Fig. 1). On AFB staining large number of acid-fast bacilli were demonstrated (Fig. 2). Hence, the diagnosis of TA was confirmed. There was no evidence of tuberculosis in any other organs.

Discussion
Tuberculosis remains a serious health
problem throughout the world causing three million deaths per year and is currently estimated that 30% of the world population is infected.¹ The most severe form of tuberculosis is that involving the CNS. Epidural, subdural abscesses, tuberculous meningitis, tuberculomas and tuberculous abscess (TA) are the various manifestations of tuberculous involvement of the CNS. TAs of the brain are exceptionally rare.¹ This entity was first described by Evans and Rand in the early 1930s. Since then there have been few isolated case reports of TAs.²⁻⁴ However, with the advent of HIV infection, the incidence of TAs is on the rise.¹ Very few cases of TA in immunocompetent individuals have been reported in literature.⁵,⁶ In our case the patient was HIV negative and immunocompetent. In 1978, Whitener proposed the following criteria for establishing the diagnosis of TA brain.⁷

**Discussion**

Goldenhar syndrome is often used synonymously with “Oculo-Auriculo vertebral spectrum” is a rare disorder that is present at birth.² This disorder is characterized by a wide spectrum of symptoms and physical features that may vary greatly in range and severity from case to case.³ Approximately 10 to 33 per cent of affected individuals have such malformation on both sides of the body with one side typically affected more than the other. It is inherited as autosomal dominant or autosomal recessive.⁴ Some suggests that there may be interaction of many genes possibly in combination with environmental factors. In our case the patient had both eyes upper lid coloboma, for which rearranging of available tissue or Z-plasty was suggested. Removal of limbal dermoid of both eyes was also suggested to enable the patient to close his eyes. The indifferent presentation without vertebral, auricular and systemic features made this case to be reported.

**Conclusion**

Isolated colonic tuberculosis perforation being the rarest form of intestinal tuberculosis poses great difficulty in diagnosis. High index of suspicion, supported by radiological investigation, exploratory laparotomy and histopathological examination of tissue biopsy can only lead to a definitive diagnosis of this rare condition. Surgical treatment involves either primary suturing or stomas followed by antituberculosis chemotherapy.

**References**