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Concomitant tuberculous and pyogenic cerebellar abscess in a patient with pulmonary tuberculosis

Sir,

Tuberculous brain abscess represents one end of the spectrum of central nervous system tuberculosis and is relatively rare. Concomitant pyogenic and tuberculous brain abscess is very rare and only two cases have been reported so far.\[^1\]\ A case of concomitant pyogenic and tuberculous cerebellar abscess occurring in a patient with pulmonary tuberculosis is reported.

A 24-year-old male presented with headache, neck pain and unsteadiness of gait of two months duration. He had been on treatment for pulmonary tuberculosis diagnosed six months earlier. He had no evidence of ear infection or other septic foci. Fundus examination showed bilateral papilledema. He had right upper limb and gait ataxia. Computerized tomographic scan and magnetic resonance imaging showed a large ring-enhancing mass lesion in the cerebellar vermis and right cerebellar hemisphere with obstructive hydrocephalus [Figure 1]. Patient was negative for HIV infection. X-ray chest showed evidence of bilateral pulmonary tuberculosis with multiple patchy consolidation [Figure 2]. Suboccipital craniectomy was performed. A large surfacing mass was encountered occupying the vermis and right cerebellar hemisphere. Tapping revealed 20 ml of liquid yellow pus. The abscess capsule was thick and was excised. Gram staining of the pus showed Gram-positive cocci and Ziel Nielson staining showed evidence of mycobacteria. Staphylococcus aureus was
grown on culture. Histopathological examination of the abscess wall showed fibrocollagenous tissue with inflammatory cells [Figure 3]. There was no evidence of Langhan’s giant cells or caseation. The patient was treated with antibiotics as per the bacteriological sensitivity report and antituberculous chemotherapy. The patient made an uneventful recovery and is being continued on antituberculous chemotherapy.

Tuberculous abscess of the brain is a separate entity from tuberculoma. Three conditions have to be fulfilled to be called tuberculous brain abscess: (1) presence of frank pus in an abscess cavity in the brain, (2) presence of acid fast bacilli in the pus and (3) absence of caseation and granuloma formation in the abscess wall with presence of inflammatory cells.\(^1\) Whitener reported the first case of tuberculous brain abscess.\(^2\) There have been many reports of tuberculous brain abscesses.\(^3,4\) Tuberculous brain abscess is thought to represent defective immune response in which the delayed hypersensitivity reaction is suppressed with preservation of acute inflammatory response.

Concomitant pyogenic and tuberculous abscess has been extremely rare. Siddiqui et al., have reported two cases of concomitant pyogenic and tuberculous brain abscess, both of which were in the cerebral hemisphere and both had streptococcus and mycobacterium in the pus.\(^1\) Both these patients had no other tuberculous foci or immunocompromised state. In the present case the abscess was in the cerebellum and the organism isolated was Staphylococcus aureus in addition to Mycobacterium tuberculosis. This patient who has pulmonary tuberculosis probably might have developed a secondary bacterial infection of the tuberculous abscess in the cerebellum by metastatic spread. This case report emphasizes the need for routine examination of all brain abscesses for both pyogenic and tuberculous organisms and the institution of the necessary antibiotic and antituberculous chemotherapy, especially in those patients with evidence of systemic tuberculosis.

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