Neurobrucellosis Infection of Ventriculoperitoneal Shunt Presenting as Peritonitis

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To the Editor: Brucellosis is an endemic zoonosis in developing countries with a worldwide incidence of <0.01 to 200 per 100,000 [1]. Brucellosis can involve any organ system and commonly presents with fever and joint pains; central nervous system involvement occurs in <2 % [2, 3].

An 8-y-old boy with congenital hydrocephalus, an indwelling ventriculoperitoneal shunt since infancy and sporadic seizures since 4 y presented with status epilepticus despite antiepileptic therapy. Though the preliminary CSF aspirate from the shunt chamber was reported sterile, there was a growth of *Brucella* species on further incubation. Three months later, he presented with gross exudative ascites and peritonitis. The peritoneal end of the shunt was diverted for a temporary external drainage and the voluminous ascites was drained with a tube drain. Blood, CSF and ascitic fluid yielded growth of Gram negative coccobacilli which was catalase, oxidase and urease positive. The organism was confirmed as *Brucella* species by Vitek Agglutination test (1:5120), the test being positive for dilutions exceeding 1:160.

A diagnosis of neurobrucellosis and shunt infection was made and managed with Gentamicin, Rifampicin and Doxycycline and serial CSF monitoring [4]. In the interim, the tube drainage subsided and was removed. He remained asymptomatic; the hydrocephalus was static clinically and radiologically. After 3 wk and sterile cultures (blood, CSF), the shunt assembly was revised and internalized. He received

Rifampicin and Doxycycline for a total of 6 mo; a repeat CSF culture was negative. At a year follow up, he is asymptomatic and the shunt is clinically normal.

The disease is frequently missed due to lack of suspicion, non-specific features on imaging and stringent laboratory methods. There are six anecdotal reports of *Brucella* infection with CSF shunts. The earliest report alludes to colonization in a ventriculoatrial shunt in 1981 [5]. Chowdhary et al. reported a 4-mo-old with VP shunt and brucellosis managed with sole medical measures [3]. Later reports by Abdinia et al. [4] and Al-Otaibi et al. [2] stress on shunt replacement in addition to drug therapy. This report documents a ventriculoperitoneal shunt infection with *Brucella* species presenting as peritonitis and its management with anti-*Brucella* chemotherapy and temporary CSF drainage.

Compliance with Ethical Standards

Conflict of Interest None.

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