



**ORIGINAL RESEARCH PAPER**

**Neurosurgery**

**VENTRICULO-PERITONEAL SHUNT IN HYDROCEPHALOUS DUE TO TUBERCULOUS MENINGITIS WITH HIV CO INFECTION: A CASE REPORT**

**KEY WORDS:**

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**ABSTRACT**

Hydrocephalus is one of the common complications of tubercular meningitis (TBM), and its incidence is increasing with the HIV epidemic. This present paper is a case report of a patient with a history of HIV and recently diagnosed with TB presenting with hydrocephalous.

**INTRODUCTION:**

The widespread increase in the prevalence of HIV infection has brought about a resurgence of tubercular infections in the developed and developing world.<sup>1</sup> The incidence of tubercular meningitis (TBM) worldwide is increasing primarily because of the epidemic of HIV infection.<sup>2,3</sup> HIV infection increases the risk of all forms of tuberculosis, especially extrapulmonary tuberculosis and TBM. Many previous reports have documented that HIV infection significantly reduces the survival rate in patients with TBM.<sup>4</sup>

This is a case report of a patient with a history of HIV from the past 15 years and was recently diagnosed with TB presented with hydrocephalous.

**Case Report**

A 40 year patient with a history of HIV infection for the past 15 yrs on Anti retroviral treatment with low CD4 count, who was recently diagnosed with Tuberculosis came to the emergency department of Gandhi medical college and hospital with headache and drowsiness. CT scan of brain revealed dilated ventricles and mild periventricular seepage. A ventriculo-peritoneal shunt was planned taking all necessary precautions. Shunt was placed with in 24 hrs of presentation and patient was extubated immediately post surgery. Patient was symptom free immediately after the procedure, post op CT brain revealed shunt in place in the Right lateral ventricle. Patient was started on ATT and ART medications on post op day 2.

**DISCUSSION**

TUBERCULOSIS is a major public health problem in India. The increase in the prevalence of HIV infection, has caused an increase in resurgence of tuberculosis in the developing world.<sup>5</sup> HIV infection increases the risk of all forms of tuberculosis, especially extrapulmonary tuberculosis and TBM. Many previous reports have documented that HIV infection significantly reduces the survival rate in patients with TBM.<sup>6</sup> Hydrocephalus is one of the most common complications of TBM, with close to 80% of patients having dilated ventricles in the early stages of the disease.<sup>7</sup> The clinical status of the patient was defined at the time of admission based on Glasgow Coma Scale (GCS) scores and Palur grade (Table 1).<sup>8</sup>

**Table 1 palur grading of tubercular meningitis**

Grade	Definition
I	Headche, vomiting, fever w/ or w/o neck stiffness; no neurological deficits
II	Normal sensorium; neurological deficits present
III	Altered sensorium but easily arousable; dense neurological deficits may or may not be present

IV	Deeply comatose; decerebrate or decorticate posturing
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Literature regarding the optimal surgical management of TBM-related hydrocephalus in HIV-infected patients is scarce. Nadvi et al.<sup>9</sup> reported a dismal prognosis at 1-month follow-up in patients who underwent VP shunt insertion. They concluded that all HIV-associated TBM patients with hydrocephalus should be considered as being in Grade III or IV and advised against immediate insertion of shunts, irrespective of their CD4 counts. These studies suggested against insertion of VP shunt in hydrocephalous due to TBM with HIV co infection due to poorer prognosis after 1 month. However in patients with good palur grading have better prognosis with TBM and HIV co infections

**CONCLUSION**

Hydrocephalus in TBM with HIV coinfection is not uncommon in developing countries. Although studies regarding the surgical management of hydrocephalus due to TBM in patients with HIV co-infections are scarce. In our patient who was diagnosed with HIV 15 years back and is on ART with a CD4 count of <40 cells/mm and recently diagnosed with TBM and hydrocephalus presented to the ER with severe headache. We operated on her with a VP shunt placement, patient was symptom free from the pod 2 and was discharged home with ART and ATT and advised regular follow up.

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