Shunt removal

Linezolid, an oxazolidinone, is active against Gram positive cocci, and has excellent CSF penetration. Gill et al., present a 22-year-old woman who was cured of a Staphylococcus epidermidis VP shunt infection via shunt removal and intravenous linezolid [1].

Escherichia coli was isolated from 12 of 23 patients (52%), Klebsiella pneumoniae from 5 (22%), and mixed GNB from 3 (13%) patients. Initial treatment always included immediate shunt removal, externalized ventricular drainage, and intravenous antibiotics. Extraventricular drainage revision and/or intraventricular antibiotics were required in four patients whose CSF cultures were persistently positive for GNB. At admission, these patients had CSF glucose levels of < 10 mg/dl and CSF positive for GNB by Gram's stain. The overall cure rate was 100%, and no recurrence was observed; however, a subsequent infection with a different organism developed in four patients. Only 2 of 19 patients (11%) who were followed up suffered apparent CNS damage. One patient died of unrelated causes shortly after treatment. Our findings indicate that 1) patients with GNB CSF shunt infections often appear relatively well at presentation; 2) CSF positive for GNB by Gram's stain and very low CSF glucose levels predict continued positive CSF cultures, despite appropriate antibiotic therapy; and 3) GNB CSF shunt infections can be successfully treated by prompt shunt removal, extraventricular drainage, and intravenous antibiotics [2].

1)
Gill CJ, Murphy MA, Hamer DH. Treatment of Staphylococcus epidermidis ventriculo-peritoneal shunt infection with linezolid. J Infect. 2002 Aug;45(2):129-32. PubMed PMID: 12217722.
2)
Stamos JK, Kaufman BA, Yogev R. Ventriculoperitoneal shunt infections with gram-negative bacteria. Neurosurgery. 1993 Nov;33(5):858-62. PubMed PMID: 8264883.