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Stenotrophomonas maltophilia cerebrospinal fluid infection in neonates following neurosurgery

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Introduction: *Stenotrophomonas maltophilia* is an aerobic, non-fermenting, gram negative bacillus that most commonly causes nosocomial infection in immunocompromised patients. The number of infections caused by this opportunistic pathogen is increasing, however, central nervous system involvement remains rare. We report two cases of *stenotrophomonas maltophilia* cerebrospinal fluid (CSF) infection in neonates post neurosurgery and review the literature to look for similar cases.

Methods: Case reports and literature review.

Results: Two neonates with hydrocephalus (one post-meningitic and the other post-haemorrhagic) were treated with ventriculo-peritoneal shunts in two neurosurgical centres in the UK. Both patients presented with clinical symptoms and signs of shunt infection. CSF cultures confirmed *stenotrophomonas maltophilia* infections and the patients were treated with removal of shunt, insertion of an external ventricular drain and instigation of antibiotic therapy which included co-trimoxazole.

After a comprehensive literature review, 27 cases of *stenotrophomonas maltophilia* meningitis were identified. 21 cases were reported in adults and 6 in children. 2 out of 6 cases reported in children were associated with a prior neurosurgical procedure.

To our knowledge our cases are therefore the third and fourth cases of *stenotrophomonas maltophilia* CSF infection post neurosurgery in a paediatric population.

Conclusions: *Stenotrophomonas maltophilia* meningitis remains rare, however, it is reported to be increasing in frequency. Previous antibiotic use, length of stay, prematurity and malignancy have been implicated as predisposing factors for infection. Commonly the pathogen is resistant to multiple antibiotics and treatment should be based on microbiological sensitivities. Co-trimoxazole has been shown to be effective in our patients.