

Bacterial Causes of Cerebral Abscess and Impact on Long Term Patient Outcomes

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Abstract : Introduction: A brain abscess is a life-threatening condition, carrying significant mortality. It requires rapid identification and treatment. Management involves a combination of antibiotics and surgery. The aim of the current study was to identify common bacteria responsible for cerebral abscesses as well as the long term functional and neurological outcomes of patients following treatment in a retrospective series at a single UK neurosurgical centre. Methodology: We analysed patients that had received a diagnosis of 'cerebral abscess' or 'subdural empyema' between June 2002 and June 2018. This was done in the form of a retrospective review. The search resulted in a total of 180 patients; with 37 patients being excluded (spinal abscess, below 18 or non-abscess related admissions). Data were collected from medical case notes including information about demographics, comorbidities, immunosuppression, presentation, size/location of lesions, pathogens, treatment, and outcomes. Results: In total, we analysed 143 patients between the ages of 18-90. Focal neurological deficit and headaches were seen in 84% and 68% of patients respectively. 108 positive brain cultures were seen; with the largest proportion, 59.2% being gram-positive cocci, with strep intermedius being the most common pathogen identified in 13.9% of patients. Of the patients with positive blood cultures (n=11), 72.7% showed the same organism both in the blood and on the brain cultures. Long term outcomes (n=72) revealed that 48% of patients seizure-free without requiring anti-epileptics, 51.3% of patients had full recovery of their neurological symptoms. There was a mortality rate of 13.9% in the series. Conclusion: In conclusion, the largest bacterial cause of abscess within our population was due to gram-positive cocci. The majority of the patient demonstrated full neurological recovery with close to half of patients not requiring anti-epileptics following discharge.

Keywords : bacteria, cerebral abscess, long term outcome, neurological deficit

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