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Objectives: Frequency of gram negative organisms as a causative pathogen of nosocomial meningitis has increased. *Acinetobacter baumannii* and Enterobacteriaceae are two pathogens responsible for post-neurosurgical meningitis. The aim of this study is to evaluate the factors that influenced the outcomes in patients with post-neurosurgical meningitis caused by *A. baumannii* and Enterobacteriaceae.

Patients and method: The records of the infection control committee in Erciyes University Hospital were retrospectively reviewed to identify patients with post-surgical meningitis between 2007 and 2012. Subjects were defined as patients over 18 years of age with cerebral spinal fluid (CSF) cultures positive for Enterobacteriaceae and *A. baumannii*.

Results: Twenty six of 38 patients had *A. baumannii* meningitis; 12 patients were meningitis owing to *Klebsiella pneumoniae* (8 patients), *Enterobacter aerogenes* (3 patients) and *Serratia marcescens* (1 patient). All strains belong to Enterobacteriaceae and three of *A. baumannii* were susceptible to imipenem. Average age of patients were 51.87±16.63 year and 22 (57.9%) of whom were male. Ten (28.6) patients had a comorbidity including diabetes mellitus (8 patients) and heart failure. Most patients had intracranial hemorrhage (29 patients), and mean postoperative period 11±5.8 day (Table 1). Rate of the patients given an appropriate antimicrobial therapy was 34.2%, and crude mortality rate was 65.7%. Although there were statistically differences between survived and died patients in terms of age, CSF sterilization and duration of antibiotic, in multivariate logistic regression analysis these variables were not associated with mortality.

Table 1: Overall characteristics of patients with nosocomial *Acinetobacter baumannii* and Enterobacteriaceae meningitis

Characteristic	Total, n=38, (%)	Survive, n=13, (%)	Death, n=25, (%)	p
Age (year), mean (range)	51.87±16.63	42.63±12.34	56.68±16.72	0.011
Gender, male	22 (57.9)	7 (53.8)	15 (60.0)	0.715
Comorbidity	10 (28.6)	3 (23.1)	7 (28.0)	0.575
Diseases for hospitalisation	29 (76.3)	8 (61.5)	21 (84.0)	0.452
Intracranial hemorrhagy	4 (10.5)	2 (15.4)	2 (8.0)	
Intracranial malignity	3 (7.9)	2 (15.4)	1 (4.0)	
Cervical injury	2 (5.3)	1 (7.7)	1 (4.0)	
Hydrosefalus				
Etiology	26 (68.4)	10 (76.9)	16 (64.0)	0.333
<i>A. baumannii</i>	12 (31.6)	3 (23.1)	9 (36.0)	
Enterobacteriaceae				
Imipenem resistance	23 (60.5)	8 (61.5)	15 (60.0)	0.927
Postoperative period (days)	11.0±5.8	13.3±5.8	9.8±5.6	0.092
Appropriate treatment	13 (34.2)	7 (53.8)	6 (24.0)	0.066
CSF sterilization n, 35	16 (45.7)	11 (100)	5 (20.8)	0.001
Duration of antibiotics (days)	11.78 ± 8.83	21.46 ± 6.09	6.54 ± 4.61	0.001

In conclusion: Mortality rate was 65.7%. Age, CSF sterilization and antibiotic course were significant variables. But these variables were not associated with mortality in multivariate logistic regression analysis.