

**P0166**

**Paper Poster Session**

**Central nervous system infection**

### **Postsurgical meningitis by *Pseudomonas aeruginosa*: prognostic factors and evolution**

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**Background:** Nosocomial meningitis by *Pseudomonas aeruginosa* is an infection with high mortality. The aim of this study is the description of the prognostic factors of the neurosurgical meningitis due to *Pseudomonas aeruginosa*.

**Material/methods:** All patients adults with nosocomial postsurgical meningitis due to *Pseudomonas aeruginosa* diagnosed at the Hospital Central de Asturias Oviedo, between 1990-2014 were retrospectively reviewed. Nosocomial meningitis was defined according to the CDC definitions. Continuous values were expressed as mean and compared using Student t test or U of Man-Whitney. Categorical values were expressed as absolute and relative frequencies and were compared using Fisher's exact test or  $\chi^2$  test. A p value lower than to 0.05 was considered as statistically significant. A binary logistic regression analysis using a step-wise (Wald) to determine the factors influencing the mortality of the infection and the efficacy of the different therapies was used.

**Results:** 51 CSF cultures for *Pseudomonas aeruginosa* were found (58,8% men, mean age of 50 [18] years. The most frequent underlying disease were: hemorrhage (33,3%), neoplasm (33,3%), head trauma (27,5%) and hydrocephaly (5,9%) . Seventy-six percent of patients had a intraventricular catheter, 17% a CSF leakage and 6% a peritoneal device. 32 patients received intravenous monotherapy with: antipseudomonal cephalosporins (26 cases), or carbapenems (11,8%), others (1 case). In 3 cases a combined parenteral therapy was used with ceftazidime and aminoglycosides. Fifteen patients received a combined intravenous and intrathecal therapy with cefalosporin plus amynoglicosides (3 cases) or colisitn ( 2 cases), or carbapenems ( six cases) plus amynoglicosides or colistin (four cases ). In 29 cases treatment was associated with removal of the intraventricular catheter. 17 patients died as a direct consequence of the infection (33.3%). There is not differences in sex, time of, mixed culture, in dead and survival patients. Mortality was higher in patients with neoplasm (70%) but without significantly differences ( $p=0.213$ ) Mortality was significantly associated with older age (53[17], vs 49[18],  $p=0.001$ ), lower levels of glucose in CSF (48[30] vs 48[30],  $p=0.010$ ), lack of removal of the intraventricular catheters (7 vs 3  $p= 0.006$ , OR: 5.74 [1.51-12.29] and an inadequate empiric treatment ( $p= 0,010$ , OR 3,14 [3.33-15,6] ) , The mortality was lower in patients treated with colistin intravenous and intrathecal combined with carbapenems or cephalosporins (0 vs 17,  $p=0,06$  OR= 1.61 [1.28-2.02] . In the multivariable analysis the mortality only was for the removal catheter (0.014) and intrathecal therapy ( $p=0.05$ ).

**Conclusions:** nosocomial meningitis by *Pseudomonas aeruginosa* is an infection with high mortality associated with lack of removal of the intraventricular catheters, older age and absence of intrathecal therapy. The use of colistina intravenous and intrathecal combined with carbapenems or cephalosporins is a useful and safe option