

P0218 Risk factors for fatal evolution in acute viral infections of the central nervous system - two-year prospective study in a tertiary facility

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Background: Specific etiologies and risk factors for severe progression remain largely unknown in acute viral infections of the central nervous system (CNS).

Materials/methods: We conducted a prospective study of patients with acute viral CNS infections hospitalized in a tertiary Infectious diseases hospital between January 2015 and December 2016, and compared characteristics of patients with fatal evolution versus those of a patients with good outcome.

Results: 181 patients were admitted, mean age 31.71 years (95%CI, 27.97-35.44). The clinical presentations were: aseptic meningitis (40.9%), encephalitis (32%) and meningo-encephalitis (25.4%). There were 23 deaths, mean age 57.43 years (95%CI, 47.78-67.09). The etiology was confirmed in 70 (38.7%) cases: West Nile virus – 19 cases, Enteroviruses – 17, Influenza viruses – 15, Herpesviruses – 14, Mumps virus – 5. We performed a comparison between patients with a fatal outcome (23) and those who survived (158), with statistically significant risk factors for deaths by etiology, age, clinical presentation and symptoms (coma, confusion, obnubilation, seizures, sleepiness, aphasia, depressed deep tendon reflexes), cerebro-spinal fluid (CSF) parameters (albumin, cells number, glucose), blood tests (erythrocyte sedimentation rate, C reactive protein, creatinine, alanine aminotransferase, glucose), $p < 0.05$. West Nile virus and herpesviruses infection were more frequent (30.4% vs. 7.6% and 30.4% vs. 4.4%, respectively) in patients with a fatal outcome. In a multivariate analysis, using logistic regression, coma, high CSF albumin and glucose levels, low CSF cells number and high level of serum creatinine were identified as significant predictors of death.

Conclusions: The evolution of CNS viral acute infections is more severe in older age patients with West-Nile virus and herpesviruses meningo-encephalitis. Several common biochemical markers can serve as predictors for severe outcome, and can be used to implement aggressive therapeutic interventions.

Variables Patients number=181	Deaths n=23	Survivors n=158	P singnificant <0.05
Age median (IQR)	62(44.0-74.0)	19(6.0-47.25)	<0.001
Meningoencephalitis, n(%)	12(52.2)	34(21.5)	0.004
Herpesviruses, n(%)	7(30.4)	7(4.4)	<0.001
West Nile virus, n(%)	7(30.4)	12(7.6)	0.004

Coma, n(%)	14(60.9)	11(7.0)	<0.001
Confusion, n(%)	17(73.9)	34(21.5)	<0.001
Obnubilation, n(%)	15(65.2)	21(13.3)	<0.001
CSF albumin, g/l, average (95%CI)	1.29(0.297-2.290)	0.48(0.404-0.574)	<0.001
C-reactive protein, mg/dl, average (95%CI)	5.97 (2.32-9.63)	2.06 (1.48-2.63)	<0.001
Creatinine, mg/dl, average (95%CI)	1.40 (0.922-1.886)	0.69 (0.643-0.744)	<0.001