

Matrix metalloproteinase-9 in the ventricular cerebrospinal fluid correlated with the prognosis of traumatic brain injury

Chun-Lin Liu; Chun-Chang Chen; Han-Chung Lee; Der-Yang Cho

Department of Neurosurgery, China Medical University Hospital

以腦脊髓液中間質蛋白酶-9(MMP-9)濃度預測腦外傷病患之預後

劉俊麟 陳春忠 李漢忠 周德陽

中國醫藥大學附設醫院 神經外科

Purpose: Matrix metalloproteinase 9 (MMP-9) has been shown to be a potential biomarker for outcome prediction after neuron damage. This study investigated whether MMP-9 could be used for outcome prediction after traumatic brain injury (TBI).

Material and Methods: For the TBI group, cerebrospinal fluid (CSF) was collected at different days after surgery from 6 head injury patients who had received surgical intervention with external ventricular drainage insertion. CSF collected from non-TBI patients (N=85) diagnosed with isolated hydrocephalus by a ventricular puncture during a ventriculo-peritoneal shunt surgery was used as control. The concentration of MMP-9 in the CSF of 85 non-TBI patients was determined to be 1.172 ± 0.859 ng/mL. We found that the CSF MMP-9 concentration from TBI patients was elevated immediately after head injury with a median of 1.926 ng/mL [ranging, 0.673 to 24.990]). Despite an early increase in the concentration of MMP-9, levels decreased within 72 hrs and nearly reached the normal range. Nevertheless, the concentration of MMP-9 was negatively correlated with the Glasgow Coma Scale ($r = -0.337$, $P = 0.013$).

Conclusion: MMP-9 concentration in the CSF of TBI patients correlated with neurological outcome and may represent an early indicator for the prognosis of this condition.

發表種類: original article

發表方式: E poster

聯絡人: 張小姐

連絡住址: 台中市北區育德路2號神經外科

連絡電話: 04-22052121 # 5033, 5034

E-mail Address: chunlin2539@gmail.com