Hydrocephalus in Patients With Head Trauma: A Series of 14 Patients

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Abstract

Background and Aim: Hydrocephalus can cause ventricular expansion, which if not treated promptly, can result in brain damage. The hydrocephalus-induced damage is not fully improved, even by means of surgical procedures, leading to permanent damages to the brain.

Methods and Materials/Patients: The aim of this study was to evaluate the demographic characteristics as well as hydrocephalus in patients with head trauma in Poursina Hospital, Rasht. The information including age, sex, Glasgow Coma Scale (GCS), trauma mechanism and accompanying brain injuries on admission were recorded. Patients with hydrocephalus diagnosed by CT scan underwent further investigation and therapeutic approaches. The treatment-related results were collected based on the GOS scale. Finally, the data were entered into SPSS version 18, and the results were analyzed by Fisher’s exact test, and Independent t-test.

Results: Of the 548 patients, hydrocephalus was observed in 14 patients (2.6%). The mean age of the patients was 44.07±24.48 years old. 31.1% of men (14 cases) had hydrocephalus, while none of women suffered from this complication. Car accidents (12 people) and fall (2 people) were identified as causes of incident in hydrocephalus patients. Head injury severity in most patients with hydrocephalus was mild (n=7, GCS=13-15) and moderate (n=6, GCS=9-12), and severe (n=1, GCS=3-8). Subarachnoid hemorrhage (n=5) and then epidural hematoma (n=4) and intracerebral hemorrhage (n=4) had the most severe damage to the skull. Most patients (n=11) were treated by surgery. Three patients recovered completely. Moderate disability, severe disability, vegetative state, and death occurred in 3, 2, 1, and 5 Patients, respectively. According to independent t-test, there is a statistically significant relationship between Glasgow Coma Scale and hydrocephalus (P=0.03). Fisher’s exact test also showed a statistically significant relationship between intracerebral hemorrhage (P=0.045) and intraventricular hemorrhage (P=0.013) on admission with hydrocephalic incidence.

Conclusion: This complication was mostly observed in young traumatic patients (younger than 40 years of age) and in patients with mild head injury. Therefore, it is necessary to pay attention to these people in order to detect hydrocephalus, if any, as soon as possible, and these patients be treated appropriately.