

CORRELATION BETWEEN THE HEMATOMA SIZE, INTERVAL OF OPERATION, AND PRE-OPERATIVE GLASGOW COMA SCALE WITH PATIENT OUTCOME IN EPIDURAL HEMATOMA

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Abstract

Objective: To record and review correlation between the volume of hematoma, interval of operation, and Glasgow Coma Scale pre-operation with patient outcome in epidural hematoma.

Materials and Methods: This is retrospective study. Total patients studied in department of Neurosurgery, Hasan Sadikin Hospital, Bandung - Indonesia, from January 2010 to January 2011 were ninety-eight with EDH diagnosed on CT scan. They were received through emergency. History and examination findings were noted. The correlation between the size of EDH, GCS, Interval of Operation and Outcome was determined. For data analysis SPSS 13 software was used.

Results: There were total ninety-eight patients of traumatic EDH. Forty-nine Patients had temporoparietal EDH, ten patients had frontal hematoma, nine patients had parietal hematoma, seven patients had parietooccipital hematoma, seven patients had frontoparietal hematoma, six patients had posterior fossa hematoma, four patients had temporal hematoma, three patients had frontotemporal hematoma, and three patients had bifrontal hematoma. Male to female ratio was 2.5:1. The mean age was 22.7 years. Pre-operative GCS had a direct relation with outcome. Out of 23 patients with GCS 3-8/15, 10 had excellent outcome, 12 had mild disability, 1 had severe disability, 3 patients had length of stay less than 10 days and 20 patients had more than 10 days. Out of 59 patients with GCS 9-13/15, 57 had excellent outcome, 2 had mild disability, 54 patients had length of stay less than 10 days and 5 patients had more than 10 days. Out of 16 patients with GCS 14-15/15, all of them had excellent outcome and length of stay less than 10 days. There was a good correlation between hematoma size and outcome. Out of 34 patients with hematoma size below than 30 ml, 32 had excellent outcome, 2 had mild disability, 6 patients had length of stay more than 10 days and 28 patients had less than 10 days. Out of 51 patients with hematoma size 31 - 50 ml, 42 had excellent outcome, 9 had mild disability, 15 patients had length of stay more than 10 days and 36 patients had less than 10 days. Out of 13 patients with hematoma size 51 - 80 ml, 9 had excellent outcome, 3 had mild disability, 1 had severe disability, 4 patients had length of stay more than 10 days and 9 patients had less than 10 days. There was a correlation between intervals of operation with outcome. Out of 19 patients with interval operation less than 6 hours, 12 had excellent outcome, 6 had mild disability, 1 had severe disability, 12 patients had length of stay more than 10 days and 7 patients had less than 10 days. Out of 17 patients with interval operation 7 - 12 hours, 12 had excellent outcome, 5 had mild disability, 7 patients had length of stay more than 10 days and 10 patients had less than 10

days. Out of 31 patients with interval operation 13 - 24 hours, 30 had excellent outcome, 1 had mild disability, 4 patients had length of stay more than 10 days and 27 patients had less than 10 days. Out of 31 patients with interval operation more than 24 hours, 29 had excellent outcome, 2 had mild disability, 2 patients had length of stay more than 10 days and 29 patients had less than 10 days.

Conclusion: The outcome of epidural hematoma is affected by GCS, interval of operation and hematoma size. Interval of operation provides rewarding results. Level of consciousness just before the surgery was the most important decisive factor in the management outcome. In higher GCS, the outcome will be excellent but in low GCS, the outcome is poor. In small hematoma, there was a good outcome but in large size hematoma, the prognosis is poor.

Key Words: *Epidural Hematomas, Glasgow Coma Scale, Glasgow Outcome Scale*