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Mild head injuries: prospective study

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Background

To define the incidence of positive CT scans in patients with different grades of mild head injury (MHI), 2. To identify clinical predictors of positive CT scans, 3. To evaluate the usefulness of plain radiographs in the triage of patients with MHI, 4. To evaluate frequency and nature of surgical intervention in MHI, 5. To evaluate the risk of deterioration in MHI, and 6. To find out whether patients with normal neurological examination and normal CT can be safely discharged.

Materials and methods

In a prospective study conducted over a period 1 year in our Department, all patients with mild head injury (defined as Glasgow Coma Scores (GCS) 13-15) were admitted to the head injury unit. Patients underwent standard clinical examination, skull radiography and cranial CT. No clinical criteria were used to select patients for CT scanning and all the patients were subjected to CT. Patients with negative findings on CT and a normal neurological examination were discharged after 24 hours of observation. Patients with positive findings on cranial CT were treated either medically or surgically as deemed necessary. Outcome measures included safe discharge, clinical deterioration, need for surgical intervention or death. The following factors were analyzed statistically to find out whether they can be used as predictive factors for positive cranial CT. They were: age, sex, mode of injury, loss of consciousness, post-traumatic seizures, ear/ nose/ throat bleeding, vomiting, admission GCS score, scalp injury, polytrauma, focal neurological deficit, fractures visualized on skull radiography.

Results

300 patients were included in the study. Of these males constituted 60%, 40% females. Age, mode of injury, loss of consciousness, post-traumatic seizures, ENT bleeding, vomiting, scalp injury and polytrauma were not found to be predictors of positive CT. Admission GCS score, focal neurological deficits, and fractures detected by skull radiography were found to be statistically significant predictors of positive findings on CT.

Conclusions

Patients with multiple lesions on CT had a higher chance of deterioration than those with single lesions. The duration of hospital stay was prolonged in patients with positive CT. As no patient with a normal neurological examination and a normal CT deteriorated, we believe these patients can be safely discharged without need for admission and observation.

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