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TRAUMATIC EXTRADURAL HEMATOMA

Mian Iftikhar ul Haq

Training Medical Officer
Department of Neurosurgery,
PGMI/HMC, Peshawar
drmiulhaq@gmail.com

Correspondence Address:
Mian Iftikhar ul haq
Trainee Medical Officer
Department of Neurosurgery,
PGMI/HMC, Peshawar
drmiulhaq@gmail.com

ABSTRACT... **Objectives:** To determine the frequency, clinical presentation and outcome of extradural hematoma in patients with head injury. **Study Design:** Cross sectional descriptive study. **Setting:** Neurosurgery department of Hayatabad Medical Complex, Peshawar. **Period:** 1st January 2011 to 1st July 2012. **Patients and methods:** All patients of head injury, from all ages and both genders were included. Patients in whom EDH caused by bleeding disorders or vascular malformations of the dura mater and post surgical EDHs were excluded from the study. CT scan brain was done for all patients to confirm their diagnosis. The information regarding patient demographical details, clinical presentation and site and size of hematoma was documented in patient's Performa. The data was analyzed by SPSS version 16. **Results:** A total of 331 patients with head injuries were included in the study. Out of 331 patients, there were 221(66.76%) males and 110(33.23%) females. Majority of patients 90(27.2%) were in the age range of 21-30 years. EDH was found in 29(8.76%) patients. The commonest location of extradural hematoma was temporo-parietal region i.e 3.93%. One patient had left side weakness postoperatively and two(6.89%) died. **Conclusions:** The outcome of operated extradural hematoma patients was good in those patients having higher GCS score

Key words: Outcome, Head injury, Extradural hematoma.

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INTRODUCTION

Among trauma patients, head injury is responsible for up to 50% of fatalities and for a large component of continuing care among survivors. Head injury remains the most common cause of death and disability in young people[1,2].

Epidural haematoma (EDH) is a potentially life-threatening complication after severe traumatic brain injury (TBI). However, it also occurs after mild or moderate TBI[3,4]. EDH is characterized by a variable clinical presentation in the acute situation[2,4,5]. If undetected and untreated the EDH may lead to progressive transtentorial herniation with loss of consciousness, pupillary dilation, and further neurologic deficits[1,5,6].

EDH results from interruption of dural vessels, including branches of the middle meningeal arteries, veins, dural venous sinuses, and skull vessels[2,3,6]. CT scanning is the most accurate, investigation of choice for the diagnosis of EDH and it will show the typical biconvex or lens shaped hyperdense lesion. Several types of head injury are amenable to neurosurgical intervention, and improved outcomes have been reported in patients receiving prompt treatment of post-traumatic extra-axial cerebral mass lesions, including EDHs and SDHs[5,7,8]. My study objective was to determine the frequency, clinical presentation and outcome of extradural hematoma in patients with head injury.

MATERIAL AND METHODS

This cross sectional descriptive study was done in neurosurgery department of Hayatabad Medical Complex, Peshawar, from from 1st January 2011 to 1st July 2012. A total of 331 patients of head

injury, of various ages and both genders were included. Patients in whom EDH caused by bleeding disorders or vascular malformations of the dura mater and post surgical EDHs were excluded from the study. CT scan brain was done for all patients to confirm their diagnosis. The information regarding patient demographical details, clinical presentation and site and size of hematoma and site of skull fracture was documented in patient's Performa. The data was analyzed by SPSS version 16. Frequency and percentage was calculated for categorical variables. Mean ± SD was calculated for age. Results were presented as tables.

RESULTS

Out of 331 patients, there were 221(6.76%) males and 110(33.23%) females In this study the mean age was 29 ± 1.2 years SD. Majority of patients 90(27.19%) were in the age range of 21-30 years (Table I).

Age (years)	Number	Percentages
0-10	38	11.48
11-20	52	15.7
21-30	90	27.19
31-40	64	19.33
41-50	54	16.31
51-60	20	6.04
Above 61	13	3.93

Table-I. Age distribution

Glasgow coma scale was used to assess the level of consciousness. Most of the patients 160(48.34%) had GCS in the range of 13 to 15 (Table II)

GCS Score	Number	%age
3-8	49	14.8
9-12	122	36.86
13-15	160	48.34

Table-II. Glasgow coma scale

The commonest presentation was headache i.e. 242 patients (73.11%) and 210 patients (63.44%) had vomiting as presenting complaints (Table III).

Out of 331 patients extradural hematoma was found in 29 patients (8.76%).The commonest location was temporo-parietal region i.e. 13 (3.93%) patients (Table IV).

Clinical features	Number	%age
Headache	242	73.11
Vomiting	210	63.44
Loss of consciousness	111	33.53
Focal neurological	85	25.67

Table-III. Clinical presentation

Site of hematoma	Number	%age
Temporal - parietal	13	3.93
Parietal	9	2.72
Frontal	5	1.51
Posterior fossa	2	0.6
Total	29	8.76

Table-IV. Distribution of hematoma

DISCUSSION

Head injuries are common in younger age groups. People in their twenties and thirties are having higher chances of sustaining head traumas[3,7]. Because at this age groups they work hard and remain prone to the road traffic accidents, industrial hazards and of course physical violence. In the present study, the commonest age group is 21 to 30. Naveed D also reported the same results[9]. Rehman L showed the common age group 20 -30 years in his study[10]. Khan MJ repoted the common age group less then 12 years[11].

Males are more commonly effected in the current study. The reason is the nature of jobs, higher risk of trauma and warfare injuries. Naveed D also observed male effected more in head trauma.[9] Cheung PS showed male dominency in his study[12]. Khan MJ also reported male effected more

in his study[11].

The predominant complaints in our patients were headache 242(73.11%) and vomiting 210(63.44%). Headache in head injury patients is significant because headache may be due to underlying raised intracranial pressure. Vomiting is another important symptom in head injury patients. There can be several reasons for vomiting in head injury patients which include raised intracranial pressure, disturbance of vestibulocholear system swallowing of blood. Naveed D[9] etal and Rehman L[10] etal also reported the same sequences of clinical features. Cheung PS etal showed that headache and vomiting is the commonest clinical features in his study[12].

Majority of the patients in this study were in minor head injury i.e. 160(48.34 %). Cheung PS reported similar results in his study[12]. Rehman L also showed same pattern of GCS score[10]. Khan MJ reported more commm GCS score of the patients were in the mild i.e 13-15[11].

In our study the frequency of extradural hematoma was 29 (8.76%). Naveed D et al has reported 47(23.86%) in his study[9]. Cheung PS has observed 8.24% of extradural hematoma in head trauma patients[12]. Leitqeb J reported 21.5% of patients have EDH after sustaining head trauma[13].

The commonest site of extradural hematoma was temporoparietal in my study i.e 3.93%, while parietal in 2.72%, frontal in 1.51% and Posterior fossa involvement in 0.6% of cases. Steinen M showed that the temporoparietal EDH is the commonest area[14]. Rehman L[10] and Naveed D[9] also reported the same sequences of EDH distribution.

Most of our patients 26(89.65%) have good postoperative outcome. One patient had left side weakness postoperatively and two (6.89%) died due to low GCS score i.e 3. Three (10%) patients had died in a study conducted by Rehman L[10]. Cheung PS reported 10% mortality in his study[12].

CONCLUSIONS

The outcome of operated extradural hematoma patients was good in those patients having higher GCS score.

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When dictatorship is a fact,
revolution
becomes a right.

Victor Hugo