



Original Article

Surgical Out Come of Extradural Haematoma Patients at Department of Neurosurgery in Chittagong Medical College Hospital: A Study of 30 Patients

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Abstract

Bleeding of extradural space is called extradural haematoma. This was a prospective study. In this study included 30 patients of extradural haematoma. Mean age of patients was 29 ±15year. 26(83.3%) of patients were male and 5(16.6%) of patients were female. Commonest cause of haematoma were road traffique accidents. Among them 28(93.3%) patients were treated by surgical procedure and 2(6.6%) were treated by conservative procedure. After surgery among the 30 patients 26(83.3%). patients were fully recovered. Postoperatively two patients recovered with disabilities (one had visual field defect and one had Psychological disturbance). Two patients (6.6%) died on 3rd and 6th post operative day respectively due to aspiration pneumonia. Mortality and morbidity were more among those who were operated after 48 hours of occurrence. So, this study concluded that the early surgery is more life saving than the late surgery.

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Introduction

Incidence of epidural hematoma 1% of head trauma, admissions Ratio of male female = 4: 1%. It usually occurs in young adults and is rare before age 2 years or after age 60 years. Perhaps because the dura is more adherent to the inner table in these groups¹. Over all (20-55)% mortality in older series. Optical diagnosis and treatment in within few hours. Result 5-10 estimates mortality. It is life threatening disease early surgery can safe many lives. Death usually occurs due to respiratory arrest from uncal herniation causing injury to the midbrain. CT scan of brain is the investigation of choice. Treatment is craniotomy and evacuation of haematoma²

Bleeding at the extradural space occurs from tearing of middle meningeal vessel mainly from middle meningeal artery.

Extradural haematoma have their classical presentation.

1. Brief post-traumatic loss of consciousness.
2. Followed by a Lucid interval for several hours.
3. Then obtundation, contralateral hemiparesis, ipsilateral pupillary dilatation.³

Dogma was that a temporoparietal skull fractures disrupts the middle meningeal artery as it exits its bony groove at the pterion, causing arterial bleeding that dissects the dura from the inner table. Another possibility is that dissection may occur first then bleeding occurs into the space thus created.

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Denny- Brown described a posttraumatic disorder with “lucid interval” followed by bradycardia, brief periods of restlessness and vomiting, without intracranial hypertension or mass. Children especially may have headache and may become drowsy and confused. 85% is arterial bleeding, many remaining cases from middle meningeal vein or dural sinus. 70% occur laterally over the hemispheres with their epicenter at the pterion, (5-10)% occur in the frontal, occipital, and posterior fossa. Shift of the brain stem away from the mass may produce compression of the opposite cerebral peduncle on tentorial notch which can produce ipsilateral hemiparesis (called Kernohan’s phenomenon), a false localizing sign.⁴

CT scan findings of extradural haematoma is are - in 84% of cases high density biconvex (lenticular) shape adjacent to the skull. In 11% the side against the skull convex and that along the brain in straight, and in 5% it is crescent shape (resembling subdural hematoma).⁵

In 50% of cases there will be a slight transient increase in size between 5-16 days and some patients required emergency craniotomy when signs of herniation occurred.⁶

May develop once an intracranial lesion is surgically treated, as occurred in 5 of 7 patients within 24 hours of evacuation of another EDH 6 of 7 patients had known skull fractures in the region in the where the delayed EDH develop,⁷ but none of 3 had a skull fracture in another report.⁸

Posterior Fossa Epidural Hematoma Comprise 5% of EDH. More common in last two decades of life. As many as 84% have occipital skull fractures, only 3% of children with occipital skull fractures developed posterior fossa EDH.⁹

Materials and Methods

This study was a prospective study. Which was carried out from April 2006 to April 2007 at Department of Neurosurgery in Chittagong Medical College Hospital, Chittagong. A structured questionnaire was made. Data were collected after patient admission. Proper history was taken and clinical examination was done. CT scan findings were revealed extradural haematoma. They were operated and close follow up were done.

Results

Table-1: Shows Highest group were 21-40 yrs age are 15(50%). Mean age of patients was 29 ±15 years.

Age	Percentage	No pt
1-20 yrs	33.3%	10
21-40 yrs	50%	15
41-60 yrs	13.3%	4
61 Yrs and above	3.3%	1

Distribution of patients (N=30)

Table-2: Shows among the 30 patients, 25(83.3%) are male and 5(16.6%) are female.

Sex	No.	Percentage
Male	25	83.3%
Female	5	16.6%

Sex distribution of patients (N=30)

Table-3: Shows highest group are 10(33.3%) day laborers

Occupation	No	Percentage
Day laborers	10	33.3%
Service holder	6	20%
Farmer	5	16.6%
Professional	5	16.6%
House wife	4	13.3%

Occupation of patients (N=30)

Table-4: Shows Causes of occurrence are more due to RTA 21(70%)

Road traffic accident	No	Percentage
Accident	21	70%
Assault	7	23.3%
Others	2	6.6%

Causes of injury (N=30)

Table-5: Shows timing of surgery after occurrence (more in 13 hours to 48 hours).

	No	Percentage
Within 12 hours	4	13.3%
13 hrs to 48 hrs	15	50%
More the 48 hrs	11	36.6%

Time of surgery after occurrence (N=30)

Table-6: Shows G.C.S of patients during admission.

	No	Percentage
G.C.S 8 and less	10	33.3%
G.C.S 9 - 13	15	50%
G.C.S 14-15	5	16.6%

Glassgo Comma Scale (G.C.S) (N=30)

Table-7: Shows the clinical findings of patients of EDH.

	No	Percentage
Pupillary dilatation	15	50%
Other Cranial Nerve Palsy	5	16.6%
Speech disturbance	5	16.6%
Upper limb weakness	15	50%
Lower limb weakness	15	50%
Deep tendon reflex exaggerated	10	33.3%

Neurological Deficit (N = 30)

Table-8: Shows the site of distribution of patients of extradural haematoma.

	No	Percentage
Temporal	8	26.6%
Fronto-temporo-parietal	15	50%
Parietal	4	13.3%
Bilateral	2	3.3%
Others	1	3.3%

Site of extradural haemorrhage (N=30)

Table-9: Shows the treatment option of patients.

	No	Percentage
Surgical	28	93.3%
Conservative	2	6.6%

Treatment given at Hospital (N=30)

Table-10: Shows two of the patient develops hypovolumic shock during surgery which was treated by blood transfusion.

Per operative	No	Percentage
Yes	2	6.6%
No	28	93.3%

Per operative complication of surgery (N=30)

Table-11: Shows the post operative complications of patients.

Post operative	No	Percentage
Wound infection	5	16.6%
Aspiration pneumonia	4	13.3%
Death	2	6.6%

Post operative complication of surgery (N=30)

Table-12: Shows good recovery in 26 (86.6%) patients, 2(6.6%) patients had residual neurological deficit (One had visual field defect and one had psychological disturbance). Two (6.6%) patients died on 3rd and 6th postoperative day respectively due to aspiration pneumonia.

Per operative	No	Percentage
Good recovery	26	86.6%
Recovery with moderate disabilities	2	6.6%
Recovery with severe disabilities	0	0%
Vegetative stage	0	0%
Death	2	6.6%

Gassgo out come scale (GOS) (N=30)

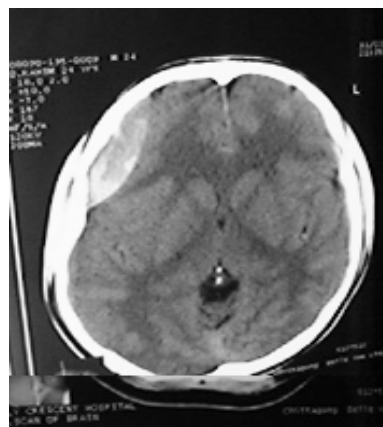


Fig. I: Right fronto parietal extradural haematoma

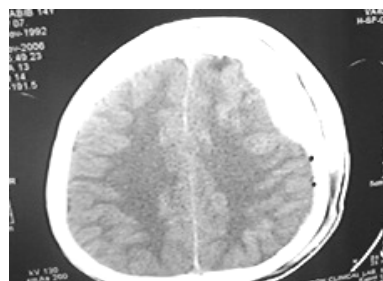


Fig. II: Left frontal extradural haematoma

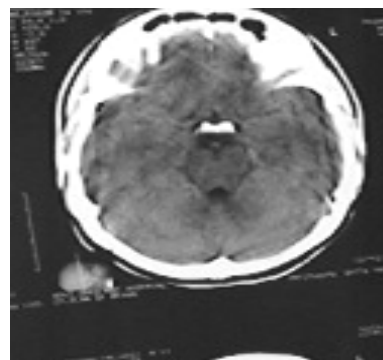


Fig. III: Right frontal extradural haematoma

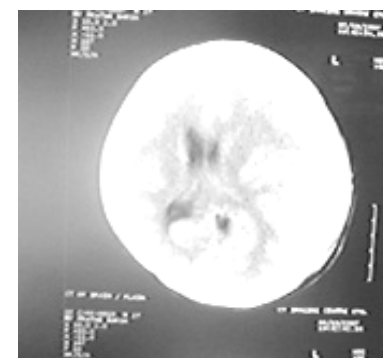


Fig. IV: Left parietal extradural haematoma

Among 30 patients 2(6.6%) were treated conservatively due to minimum extradural blood and minimal neurological deficit, 28(93.3%) patients were treated by operative procedure. Among the 28(93.3%) patients who came after 48 hours, two were died post operatively, one had visual field defect and one had psychological problems. 26(83.3%) patients recovered fully.

Discussion

This prospective study was done at the department of neurosurgery in chittagong Medical College hospital from April 2006 to April 2007 at the period 12th months. To find out the outcome of surgery of extradural hematoma at the department of neurosurgery at Chittagong Medical College & Hospital.

Age group patient were more in the range at 21-40yrs 15(50%) to active group. Sex distribution were more in male patients. Day laborers were more prone to EDH. This study showed road traffique accident are the commonest cause of EDH 21(70%). Neurological deficit were more at limb weakness and papillary dilatation in this study. Commonest site of EDH at fronto-temporo-parietal region 15(50%). 28(93.3%) patients were treated surgically. Out come of surgery were- 26(83.3%) patients cured and 2(6.6%) died post-operatively, 2(6.6%) had residual deficit. Among the timing, those who were operated earlier cured completely and those who operated after 48 hours, among them 2 died and 2 had neurological deficit. Optimal diagnosis and treatment within few hrs results in 5-10% estimated mortality (12% in a recent CT era series).¹⁰

Bricolo et al showed mortality figure of five percent in 107 patients.¹¹

Conclusion

This study revealed early surgery in patients of extradural haematoma life saving and late surgery results increase mortality and morbidity.

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