MANAGEMENT AND OUTCOME OF DEPRESS SKULL FRACTURE

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ABSTACT

Objective: To find outcome of Depressed Skull Fracture.**Study Design:** DISCRIPTIVE STUDY.**Place and Duration of Study:** This study was conducted from March 2007- Feb 2010 in Saidu Teaching Hospital Swat.**Material and Methods:** One hundred and twenty seven patient with Depressed Skull Fracture were included in this study. All patients came through casualty Department, from Malakand division, X ray skull were done in casualty in all cases. CT Brain was performed in 89 cases (70.7%), patients with fire arm injury, penetrating injury, conservatively treated Depressed Skull Fracture were excluded from the study. Cases operated for depressed skull fracture were included in our study,**Results:** A total 127 patients were operated. There were 75 male (59.0%) and 52 female patients (40.0%). Compound Depressed Skull Fracture were found in 101 patients (79.5%) close Depressed Skull Fracture were 26 cases (20.4%). The bones involved were frontal in 14 Patients (20.4%) 41 cases were Parietal (32.2%) 25 were temporal (19.6%) 12 was occipital (9.4%) and 35 was miscellaneous/Multiple Fracture (27.5%). Indication for surgery was Depressed Skull Fracture more than five millimeter in all open Depressed Skull Fracture, leaking cerebral spinal fluid (CSF), oozing brain matter along with Depressed Skull Fracture. Post operatively 101 patients (79.52%) have full neurological recovery, 5 patient (3.93%)hemi paretic, 5 patient dysphasic (3.93%) 14 Patients (11.2%) develop . complication like meningitis , pneumonia and abscesses , 2 patient (1.57%) were vegetative state.**Key Words:** Depressed Skull Fracture * Road traffic accident * Head injury *

INTRODUCTION

When a fragment of skull bone is displaced inward to a distance of equal OR more than the width of calvarium, a skull is said to be depressed skull fracture may or may not be accompanied by damage to brain or its covering¹. It is common with patient with low speed trauma². With surgical treatment there is more chances of neurological improvement and lessen the chances of complications. The management of Depressed Skull Fracture is revolutionized in the recent past that is conservative and surgical³.

Many of the compound Depressed Skull Fracture can be managed without operation⁴. Patient with severe contamination of wound establi shed

infected wound, ragged scalp laceration, presence of brain matter, or CSF leakage from the wound need surgical intervention. When Depressed Skull Fracture, if associated with laceration it is called open Depressed Skull Fracture, if not called simple Depressed Skull Fracture close Depressed Skull Fracture when there is no neurological deficit⁵. While compound Depressed Skull Fracture are of more clinical importance.

Failing to treatment these Fracture in time leads to life treating complications. Treatment in emergency department will be thorough wound debridement with saline and hydrogen peroxide wash, repair dural defects and closer of wounds are standard procedure. Replacing the bone pieces at the time of initial surgery is safe and save patient

from cranioplasty⁶.

METHODS AND MATERIAL

This observational descriptive study was carried out in Saidu Teaching Hospital from March 2007 to Feb 2010. Total of 127 patients treated surgically with clinically depressed fracture, open depressed fracture, leaking CSF, oozing brain matter along with depressed skull fracture were included. Age range was from 01-55 years.

Fractures due to sharp instruments, or missile injury were excluded from the study. Detail history including age, sex, cause, duration, clinical condition, x ray and C.T findings were noted. In our study 75 male (59.0%) and 52 female (40.0%) 100 % patients has X- Ray skull antero lateral and posterior lateral view were taken in all 127 patients (100%) 19 patients (14.9%) has long bone fracture treated in casualty. CT brain was performed in 89 patients (70.0%) as a prerequisite to surgery in our Unit in 38 patients (29.9%). Patients who has unequal pupil or deteriorated conscious level were put on mannitol loading dose, after CT brain the surgical procedure planned and performed timely. In highly contaminated wounds, bony fragments were removed and wounds washed with saline and hydrogen peroxide while clean wounds were closed primarily with big bone pieces washed with saline and put back as a graft. Dural repair was done in 41 patients (32.2%). Post operatively broad spectrum antibiotic 10-14 days were given to every patient as a routine in our setup. These patients were followed for one year postoperatively as outdoor patients. Patients visited at three weeks interval as outdoor patients for any complications. In 127 patients, 108 patients has regular follow up while 19 patients were disappear from follow up.

RESULTS

One hundred and twenty seven patients with depress skull fracture, were treated surgically, majority of these patients, 71 (55.9%) were children of 10 years age, Male were 75 (59.05%)

while female were 52(40.95%) shown in Table No. 1.

Total # of Patient	Male	%	Female	%
127	75	59.05	52	40.95

The incidence of depress skull fracture was 41 patients (32.2%) had parietal region involvement 14 patients (11.07%) had frontal bone, 25 patients (19.6%) temporal bone 12 patients (9.4%) occipital bone 35 patients (27.5%) were miscellaneous. 39 patients (30.7%) were having simple depress skull fracture, while 88 patients (69.3%) were compound depress fracture. Shown in Table No. 2

Types of Bone Fracture	Parietal	Frontal	Temporal	Occipital	Misc.
Total no of Patients	41	14	25	12	35
Percentage	32.2	20.4	19.6	9.4	27.5

82 patients (64.5%) were operated in emergency while 19 patients (14.9%) on regular list. In operated 82 patients, 17 patients (13.3 %) had extra Dural hematoma (EDH), 19 patients (14.9%) had brain ooze,

25 patients (19.6%) had Pnenumocephales, 2 patients (2.43%) were having compound depress fracture in mid line, Dural tear was found in 19 patients (23.1%).

Among the total operated patients 127 of 101 (79.52%) had excellent recovery 5 patients (3.93%) were hemi paretic, 5 patients (3.93%) were dysphasic, 14 Patients (11.2%) having meningitis, 2 patients (1.57%) were vegetative state. Shown in Table No. 3

Total no of Patients	127	Percentage
Excellent recovery	101	79.52%
Hemi paretic	5	3.93%
Dysphasic	5	3.93%
Meningitis	14	11.2%
Vegetative state	2	1.57%

In one year follow up period 98 patients (77.1%) had regular follow up of visit, while 29 patients (22.8%) did not come for follow up visit.

DISCUSSIONS

Head trauma is one of the big problem even in the develop countries; it is more common in young people⁷. Most of the head injury patients presented with depress skull fracture⁸. Conservative and surgical method are practice throughout the world the maximum number with depress skull fracture in our study in among young school going children. The same age group was highlighted by Lang Cask H et al in his study⁹. In our study Road traffic accident (RTA) was the communist cause of depress skull fracture which was shown in their results by Z Binden B and EM Sayi, which was 32 percent¹⁰. In our study 41 patients (32.2%) had parietal bone involvement 14 patients (11%) had frontal bone, 25 patients (19.6%) had temporal bone, 12 patients (9.4%) had occipital bone, 35 Patients (27.5%) had multiple skull fractures. Robert et al reported depress skull fracture in 48 percent frontal region and 37 percent parietal region so frontal and parietal region were the most common site¹¹. The same results were also shown by A Addaye and Sayi and their results as 38.8 percent and 39.5 percents in frontal and parietal regions respectively¹². Extra dural hematoma (EDH) was seen in 17 patients (13%) in our study, which was also reported by N.R Jones et al in has study as 13.3 Percent¹³. 84 Patients (66%) were operated for cosmetic reasons, 13 patients for gross contamination, 19 patients for Dural tears and 11 patients for neurological deficits in our study. M. Mylay and E.N Sayi shown in their study 68percent patients operated for cosmetic reason, 13.6 percents for compound fracture and 9.1 percent for Dural tear and neurological deficit¹⁴.

CONCLUSION

Depress skull fracture is common problem in young adults and needs prompt surgical intervention which has good outcome irrespective of site involvement.

RECOMMENDATION:

The common cause of head trauma is RTA, falls

from height and physical violence can be prevented by wearing helmet, seat belt while driving, railing on the house top, all the measure will reduce the number of head trauma causes as well as work load and save precious life.

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