Original Article

THE PATTERN OF TRAUMATIC HEAD INJURY AT FAISALABAD

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ABSTRACT

0BJECTIVE: To study the pattern of traumatic head injury at Faisalabad.

PLACE AND DURATION: Neurosurgery Department, Allied Hospital, Faisalabad.From 1.2.2014 to 31.4.2014 .

MATERIAL AND METHODS: Two hundreds and fifty patients were recieved at Emergency Department, Allied Hospital Faisalabad during three months .They were assessed and managed. CT Scan was done according to WHO guide lines for head injury patients.

RESULTS: Among 250 patients, Male to Female ratio was 7:2 and 72% of patients had met road traffic accident .The other causes include fall, mechanical trauma, hit by animal, etc. Brain contusion was the most common injury observed in this study. Good outcome was found in 58.8% patients and there was 17% mortality at 12 months of follow up.

CONCLUSION: Traumatic brain injury has very devastating effect. It has a similar pattern in Faisalabad as in Lahore.

KEY WORDS: traumatic brain injury, contusion, oedema.

INTRODUCTION:

Worldwide 10 millions people are estimated to suffer from brain trauma annually.The annual healthcare expenditure is 60 billion dollars for head trauma in developed countries[1,2,3]. Faisalabad is an important division of our country. Here patients are transported to hospitals by trained paramedic 1122 services from urban and suburbs yet many victims die at the spot and still very miserable conditions prevail in transporting from the rural areas surrounding Faisalabad.

A multipronged approach including the preventive and curative measures for this man-made calamity is the need of the hour. Amongst various preventive measures are, wearing helmet be made compulsory for both the driver and pillion riders of two-wheelers, development of a safe traffic sense amongst the road users. Traffic Police should be honest and should give exemplary punishment to the reckless drivers. The roads must be decongested. The curative measures are, the increasing the range of 1122 service to institute immediate first aid to the victims, availability of facilities of CT scanners and neurosurgeons in all the major hospitals fully equipped with Accident and Trauma centers. It is high time that concerned authorities give some serious thought to reduce huge burden on our healthcare resources.

METHODOLOGY:

Two hundreds and fifty patients were included in study .These were received at Emergency Department, Allied Hospital FBD .The age ranged from 2 to 80 years. Male(195) to female(55) ratio is 7:2. After initial

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resuscitation according to advanced trauma life support guide lines, neurosurgical assessment was done according to GCS scale .CT Scan Brain was done in patients according to WHO guide lines regarding head injury. Patients were managed accordingly. Tracheostomy was done in patients with GCS≤8. Injection Mannitol was used to decrease ICP. Outcome was assessed on the basis of Glasgow outcome scale at the time of discharge and every month afterwards till one year after discharge.

RESULTS:

Demographically total 250 patientswith M: F7:2 (m195:f55) having age range of 2 to 80 years with average age 24.98 years and average stay of 6.33± 5.68 days.

Male	195	78%
Female	55	22%

	n	**Minimum**	**MAXIMUM**	**MEAN**	**STD. DEVIATON**
AGE	250	2	80	27.62	18.91

Overall age distribution of RTA Patients

Age in years	**No of Patients**
1-10	25(14.6%)
11-20	41(27.5%)
21-30	29(17%)
31-40	24(14%)
41-50	21(12.3%)
51-60	16(9.4%)
61-70	6(3.5%)
71-80	3(1.8%)

Age Range of patients with history of fall from various heights.

Age	**Patients**
1-10	30(57.69%)
11-20	9(17.3%)
21-30	5(9.6%)
31-40	3(5.76%)
41-50	3(5.76%)
51-60	3(5.76%)
61-70	Nil
71-80	2(3.8%)

BI due to Motor cycle RTAs (45 cases)

Age range in years	**No of Patients**
1-10	9(20%)
11-20	16(35.55%)
21-30	8(17.77%)
31-40	7(15.55%)
41-50	4(8.88%)
51-60	1(2.22%)
61-70	4(8.88%)
71-80	0

Causes head injury include

Total RTA(vehicle+motorcycle)	180(72%)
RTA with motorcycle	45(18%)
Fall	56(22,2%)
Assault	9(3.9%)
Mechanical	2(8%)
Hit by animal	2(8%)
Electrocution	1(4%)

CT Scan findings

Brain contusion	81(32.4%)
Oedema	66(22.4%)
EDH	39(15.6%)
SDH	14(5.6%)
Normal scan	10(4%)
Fracture	8(3.2%)
Depressed fracture	9(3.6%)
Aerocele	6(2.4%)
Firearm Injury	4(1.6%)
Ischemia	1(.4%)

Management

Conservative	**203**
Craniotomy	**27**
Debridement	**10**
Depressed fracture elevation	**9**
Burr hole	**1**

OUTCOME based on Glasgow outcome scale

	At discharge	**At one year**
Good	**79(31.6%)**	**147(58.8%)**
Mild disability	**39(15.6%)**	**40(16%)**
Moderate disability	**62(24.8%)**	**17(6.8%)**
Vegetative	**27(10.8%)**	**3(1.2%)**
Dead	**42(16.8%)**	**43(17.2%)**

DISSCUSSION:

The most common cause of head trauma is RTA.In our study ,72% of patients had met RTA. This prevalance is higher than 52.8 % as reported by Navdeep et al in 2012 in Indian journal[4] and than 70 %as reported by Haroon A et al at LGH Lahore[5]. This may be due to densely populated urban and rural areas,substanderd road structure and poor traffic sense at Faisalabad.Worldwide the number of road traffic accidents fatalities are estimated to be 1.2 million annually while those who are injured as high as 50 millions[6].

It is estimated that motor vehicle accidents,which currently rank 9th as the cause of disability-adjusted life years in the world, would be ranked 3rd in 2030. RTA is considered a new global epidemic of world[7].

RTA due to motor cycle is 18% common in our study.Most of the patients (35%) in this group have age range from 11 to 20 years.In one study only 4%of patients were wearing helmets and35% were having licence[5].In Norway 92per 100000 users of motorcycle had head injury. Forty percent of injuries were reduced by health education and helmet distribution strategy.[8]

The second common cause was fall from height which consists of 22.2% while Haroon A et al found 20% patients who had fallen from various heights. In our study , 58% of fall patients had age range of 1 to 10 years. A study related to infants showed that fall is leading cause of head injury [9] while in one study,there was increased proportion of elderly patients who had fallen and who needed hospitalization needing a different pattern of approach for injury prevention in different groups . [10]

Miscellaneous causes include mechanical trauma ,hit by animal ,
electrocution,

Although bomb blast injury is more recorded in other cities.It is almost nonexistant at Faisalabad.

The major type of injury was brain contusion present in 32%,followed by brain oedema22% andEDH 15.2%.

Outcome was assessed according to Glasgow Outcome scale.Good outcome was found in 58%of patients. Three percent of patients had a vegetative state at one year of follow up.

There was 17 % mortality rate in this study which higher than LGH study accounting 10% [a].The lower mortality may be due to higher proportion of younger and fit patients in study at LGH while our study included patients ranging from 2 to 80 years.Moreover 1122 service at Lahore is more developed to deliver timely help to patients .

CONCLUSION:

Traumatic brain injury causes high morbidity and mortality . This manmade calamity is manageable by creating awareness of its magnitude . Moreover head TBI has similar pattern at Faisalabad like other cities of Pakistan. Preventive and curative measures should be implemented all over country .

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Imam Ali heard somebody reciting the passage of the Holy Qur'an we belong to Allah and our return is towards Him, Imam Ali said, "How true it is ! Our declaring that we belong to Allah indicates that we accept Him as our Master, Owner and Lord. And when we say that our return is towards Allah indicates that we accept our mortality".

There are many educated people who have ruined their future on account of their ignorance of religion. Their knowledge did not prove of any avail to them.

Hazrat Ali (Karmulha Wajhay)