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Emergency Management Approach in Minor Head Injuries in Neurosurgery Clinic

Besnik Elshani Hospital and University Clinical Service of Kosovo, Emergency Clinic

Basri Lenjani Hospital and University Clinical Service of Kosovo, Neurosurgeon Clinic

ABSTRACT

Craniocerebral injuries, regardless of the cause present emergency situations. Today craniocerebral injuries are ranked as third in the mortality, more than 50% of all trauma. It is considered that 1/4 of injuries are part of craniocerebral injuries. The purpose of the paper is to recognizing the signs and symptoms by reducing, disability, and possible complications from minor head injuries. Data was taken from the archive protocol to HUCSK Neurosurgery Clinic for the period of 1 year from January to December 2014. Only patients with minor head injuries were investigated. From the total number of the head injuries of 165 cases, 98 cases were with minor head injuries. Of the 165 patients with head injuries of which 98 cases with minor injuries or 59.39%, with the average injuries 45 cases or 27.27% and severe injuries were 22 cases or 13.34%. Modern management of minor head injuries in the Neurosurgeory Clinic should posses continuous approaches to monitoring, observation, treatment by providing adequate medical cure. Program approaches to be provided by professional asspects, systematic strategies, implement protocols and standard clinical brochures that will affect the quality of medical care.

KEYWORDS : Head injuries, the management, diagnosis, treatment, observation, monitoring, CT.

INTRODUCTION

Minor head injuries can cause bleeding in the cerebral tissue, injury caused by strong tools, firearms, sharp tools, falls from height, accidents in traffic. Bleeding can manifest itself if the injury occur in soft tissues such as the head, nose and mouth. However, the bleeding not stopped with pressure can be a sign of serious injuries requiring emergency medical care. Headache may occur quickly after the injury, which can last for several days, and can be treated with headache painkillers recommended by health care professionals. If headache worsen continues, however, should be evaluated by a specialist neurosurgeon. Memory loss at patients who suffer with minor head injuries may experience this oblivion, or short-term amnesia can be include before and after the injury, the patient is disoriented in time, space and confused. Changes of mood and humor to minor head injuries the patient after injury is tired, inertia and this weakness may last for several days. Sensory problems to minor head injuries dominate. Dizziness, loss of balance can occur immediately after the injury, and can last up to several hours, of which can be associated with no clear vision or double,tinnitus and abnormal taste in the mouth. Patients with minor head injuries feel sleepy after minor head injuries. Nevertheless people who sleep after minor head injuries have trouble waking up,but should be evaluated by a emergency doctor and neurosurgeon that can be alarming sign for moderate injuries and severe cerebral tissue,taking diagnostic and therapeutic measures.

Possible head injuries complications may have dangerous side effects like as; *Post-comotio syndrome, post-traumatic convulsive Attacks, mental impairment, bacterial meningitis, coma condition, Alzheimer's disease, nerve injuries.* In **diagnosis**, the test results will help to determine the diagnosis and prognosis of patients with head injuries, to do conventional radiology of the head and neck, brain computerized tomography (CT) and magnetic resonance (RM) is used. But in the cases where severe bleeding is suspected make used of angiography. **For treatment of** head injuries, minor head injuries should be followed and those moderate or severe should receive medical care as soon as possible. Surgical intervention can be utilized only after the assessment of their clinical and radiological images by the neurosurgeon who will decide on surgery. Whereas moderate and severe patients must receive rehabilitation treatment programs in the field of physical therapy, psychologists, psychiatrists, and social support. The purpose of the paper is to recognizing the signs and symptoms by reducing morbidity, disability, mortality and prevent the risks and possible complications from minor head injuries.

MATERIALS AND METHODS

Data was taken from the archive protocol of Neurosurgery Clinic of HUCSK for the period of 1 year from January to December 2014. The research is retrospective type focused only at minor injuries to the brain and treatment, only patients with minor head injuries have been explored and in total head injuries of 165 cases was study, of which 98 cases were with minor head injuries. The research is based on the basis of gender, age, causes, signs and symptoms, diagnosis, treatment, complications and statistical parameters, the index to the structure, the arithmetic mean and standard deviation. Statistical tests: X2-test and T-test. Verification of the test is done on the level of confidence 95% and 99%, respectively p <0:01 and p <0:05. Patients with penetrating head injury were excluded. No patient with a focal neurodeficit was included in the study. Patients with normal CT Scans were discharged from Accident and Emergency Department while patients who had abnormal CT Scans were admitted in the hospital for further management under Neurosurgery department.

RESULTS

Of the 165 hospitalized patients with head injuries, where 98 of cases are with minor head injuries or 59.39%, with average severe head injuries 45 cases or 27.27% and severe head injuries were 22 cases or 13.34%. (Table 1).

Head injuries	No.	%
Minor injuries	98	59.39
The average heavy injuries	45	27.27
Sever injuries	22	13.34
Total	165	100

Table 1. Head injuries based on degree of injuries

Statistical analysis of research is conducted to patients with minor head injury using the scale and results of Glasgow Instance's (GCS); Craniocerebral minor head injury **GCS (13 = 15),** moderately severe head injuries **GCS (9 = 12),** severe head injuries craniocerebral **(6 = 8).**

(Table 2).

GCS	No. Cases	%
13-15	98	59.36
9-12	54	33.04
6-8	13	7.60
Total	165	100

Table 2. Of the total number of injured with head injuries, 165 wounded were 98 cases or 59.36% with minor injuries GCS 13-15, but with the serious average injuries were 54 cases or 33.04%. GCS 9-12, serious injuries and 13 cases or 7.60%, GCS 6-8. Of the total number of head injuries dominate the injuries that are obeservuar, diagnosed and treated, and trailed within 48 hours in the department of emer-

gency medicine, and injuries moderately severe and severe, after diagnosis and treatment, all were transferred to ICU.

Minor head injuries compared to moderately severe and serious injuries in the overall number of patients with minor head injuries male patients have dominated with 57 cases or 58.16 cases.% and female 41 cases or 41.84% (X 2-test = 39.4, P <0.001) (Table 3).

Gender	N	%
F	41	41.84
M	57	58.16
Total	98	100.0

Table 3. Number of injured by gender

As shown in Table 4 are from age 1-15 years 38 cases or 38.78%, 15-30 years 20 cases or 20.40%, 30-45 years 18 cases or 18.37%, 45-60 years 12 cases or 12.24% and over age 60 years, 10 cases or 10.20%. **(Table 4).**

Age	**N**	**%**
1- 15	38	38.78
15-30	20	20.40
30-45	18	18.37
45-60	12	12.24
Over 60 years	10	10.20
Total	98	100.0

Table 4. Patients with minor head injuries by age group

As seen most frequent causes with minor head injuries were no accidental 52 cases or 53.06%, while accidental were 46 cases or 46.94%. According to the geographical scope of patients with minor head injuries were most frequent in the city 62 cases or 63.26% and in the village were 36 cases or 36.74%.

In accordance to symptoms and signs dominant minor head injuries have headaches 70 cases or 71.43%, with bleeding 12 cases or 12.24%, with changes of mood and humor 8 cases or 8.16%, with memory loss 6 cases or 6.12% and sensory problems 2 cases or 2.04%. According to radiological examinations to minor head injuries dominate diagnostic approaches to brain computerized tomography with 56 cases or 57.14%, conventional radiology were 40 cases or 40.82%, 1 case or 1.02% and 1 case or 1.02%. **(Table 5) .**

Examinations	**N**	**%**
Conventional Ro	40	40.82
CT	56	57.14
RM	1	1.02
AngioCT	1	1.02
Total	98	100

Table 5. Diagnostic Approaches to minor head injuries.

Our research emerges that the length of stay in hospital of injuries with head injuries were 90 cases from 12 to 48 hours, or 91.84%, taking into account that make up the highest number of cases monitored and observed in ED, and moderately severe injuries, duration of inpatient treatment was 5-10 days (all cases with moderately severe injuries, 70% of them were hospitalized for further treatment in the ICU), and total were 6 cases or 12.6%, while the severe head injury treatment duration was over 10 days, with a total of 2 cases or 2.04%.

All cases were expensive cost of financial services unaffordable for EMS and emergency services.

During the observation and treatment of injured with minor injuries, only 2 cases have required further treatment, width 3 cases or 3.06% was necessary monitoring in the ICU, and fortunately is not registered any case of death due to injury light head.

Of all cases with head injuries (98 cases total), 90 cases or 91.84% were post comotio syndrome, 8 cases or 8.16% had suffered posttraumatic convulsive ataq.

DISCUSSION

There is no formula for successful treatment of minor head injuries but also programmatic approaches which should be developed by the professional aspect and are not able to implement systematic strategies to treatment which still must be completed to show successful results of psychological problems as managed by professional aspect, supportive and structured consultations in recognition of rehabilitation measures or actions especially in stress management after minor head injuries. Protocols and standard clinical brochures will affect the quality of medical care. It is not clear whether the lifestyle before and after a head injury is to blame for the increased risk, if the injury itself has lingering effects, or both, say researchers. Costs for acute care of patients with mild head injuries are considerable. Model calculations indicate that use of computed tomography during triage for admission would be less expensive than admission for observation.

CONCLUSIONS

Modern management of minor head injuries in the Neurosurgeory Clinic should posses continuous approaches to monitoring, observation, treatment by providing adequate medical treatment. Programm approaches to be provided in professional aspect and systematically implement treatment strategies for successful results show that as of Psychological problems are managed by professional aspect, supportive and structured consultations in recognition of rehabilitation measures or actions especially in stress management after minor head injuries. The protocols and instructions provided standard clinic brochures that will affect the quality of medical care. Any head injury should not be overlooked, but must have the correct access to a better management in order to avoid the complications which can be fatal for the injured.

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