Profile of Patients Admitted in a Large Teaching Hospital as a Result of Earthquake in Kashmir During October 2005

Yattoo GH, AT Syed, Rangrez RA, Dara Singh
Department of Accident & Emergency, SKIMS, Srinagar (India)

Abstract:

Background: Among natural calamities Earthquakes are more devastating, as much of the life and property is affected.

Methods: The study was carried- out in Accident & Emergency Department of SKIMS, to determine personnel and medical profile of earthquake victims of October 2005, when the state was rattled by a major tremor. Data was obtained from Accident & Emergency Department. Total no of patients Admitted were 166, which were followed from admission to discharge/Death. Each patient was subjected to a pretested questionnaire indicating age, sex, rural/urban distribution, Glasgow coma score, out come of treatment and referral to other care facility.

Results: The study revealed that children were mostly affected, being the valnerable group. Most of the patients had head and bone injuries.143 patients out of 166 patients had a Glasgow coma score of 15. Only 9 patients died. The reason for better end result was because of initial first Aid, Rapid transportatation to Hospital and prompt treatment in the Hospital.

Conclusion: As Jammu and Kashmir falls in seismic zone 5, it needs a central trauma centre, having all the specialties and sub specialties under one roof. This will save precious time, as cross referral to other hospitals will not be needed

Correspondence:
Chairman
Accident & Emergency Department
Sher-i-Kashmir Institute of Medical Sciences
Srinagar – 190011 (India)

Introduction

An Earthquake is when ground suddenly shakes. Among Natural calamities earthquakes are more devastating as far as loss of life and property is concerned. [1] Then it is frequently occurring phenomenon and geographically no area is immune from its occurrence. [2] Earthquakes occur as a result of collision of continental plates, who over a period of time because of constant movement, exert pressure, which ultimately at a given point of time releases tremendous amount of energy causing land mass disruptions. Though earth is all the time shaking but most of the tremors are of low intensity. [3] Volcanic eruptions also cause tremors and destroy life and property.

Most of the earthquakes take place in pacific seismic belt, Himalayan Mountains and even human intervention like dam construction and massive earth drilling in mineral exploration may cause geographical disruptions and consequent earthquakes. [4,5]

Major earthquakes are cause of major destruction in life and property. Rather most of the human damage is as a consequence of collapsing buildings and bridges, triggering of landslides, avalanches and flash floods. Under sea eruptions can cause Tsunamis, inundating the costal regions with massive force.

An earthquake of severe intensity (magnitude 7.4 on the Richter scale) occurred on 8th October 2005 at 8.50.38 AM (local time) with epicentre at 34.432°N, 73.537°E in the Muzaffarabad Region of PoK. The tremor, which lasted for 6 minutes caused widespread death and destruction to property and communication network mostly in the Pakistan administered Kashmir and the North West Frontier Province of Pakistan and the adjoining areas of Indian administered Kashmir.

The districts of: Poonch, Baramulla, Jammu, Udhampur, Ramban Kathua, Srinagar, Budgam, Anantnag, Pulwama and Kupwara are the districts which have been reported to be worst affected in India administered Kashmir. The Armed Forces, the state and provincial administration conducted rescue and relief operations and also provided immediate medical care.

The districts of Baramulla, Poonch, Kupwara and Srinagar are the worst affected districts. As per the official reported figures, 1308 persons have lost their lives and 6,622 are reported to be injured. 33 persons are reported to be missing in the State. The injured persons are being cared for at the Army and Civil hospitals at various locations in the State. Army personnel have evacuated injured persons from Baramullah and Tangdhar to Army hospital Srinagar, SMHS hospital Srinagar, Bone and Joint Hospital Srinagar and the Sher-e-Kashmir Institute of Medical Sciences. Makeshift hospitals have been set up and doctors were flown to Uri and Tangdhar to attend to the injured.

This study was carried out in Accident & Emergency Department of Sheri Kashmir Institute of Medical Sciences, Srinagar (Kashmir) to determine the profile of injuries of earthquake victims of October 2005, when the sate of Jammu & Kashmir was struck with big tremor, causing death to 60000 people across the state, including Pakistan administered Kashmir which bore the brunt of earthquake besides huge loss in property.

Method

The study was carried- out in Accident & Emergency Department of SKIMS, to determine personnel and medical profile of earthquake victims of October 2005, when the state was rattled by a major tremor.

Data was obtained from Accident & Emergency Department. Total no of patients Admitted were 166, which were followed from admission to discharge/Death. Each patient was subjected to a pretested questionnaire indicating age, sex, rural/urban distribution, Glasgow coma score, out come of treatment and referral to other care facility.

Results

Nearly all age groups were admitted, Majority, 45 patients (27.11%) were children (0-10 years) and elderly children with age of 11 to 20 years as 33 patients (19.89%). Distribution is given, in Table (1).

Most of the victims hailed from rural back ground i.e.; 93.98% and only 06.02% were urbantis. Baramulla and Kupwara District had maximum victims 124 (74.70%) & 26 (15.66%) respectively. Incidentally these two districts bore the brunt of tremor as they were nearer to epicenter i.e. Pakistan administered Kashmir, Table (2).

143 patients had a Glasgow come scale score of 15, while 09 patients had a score less than 8. In the former group all survived and in the later only two survived, Table (3). out of 166 admitted patients total deaths were nine.

Table (1). Age Distribution.

Age in Years	No of Patients	%Age
0- 10	45	27.11
11 – 20	33	19.11
21 – 30	24	14.45
31 – 40	34	20.49
41 – 50	14	8. 43
51 – 60	10	6.02
61- 70	5	3.01
71 - 80	1	0.60

Table (2). Geographical Distribution.

District	No of Patients	0/Age
Baramulla	124	74.70
Srinagar	5	3.01
Budgam	3	1.81
Pulwama	3	1.81
Anantnag	3	1.81
Kupwara	26	15.66
Jammu	2	1.20

Table (3). Glasgow Coma Scale (GCS) Score.

Glasgow Coma Scale	No. of Patients	Improved	Expired
15	143	143	x
13-14	6	5	1
8-12	8	7	1
< 8	9	2	7

Table (4). Type of Injuries of Earth Quake Victims.

Type of injury	Head Injuries	Polytrauma	Fructure Bones	Dislocation of Joints	Abdominal Trauma	Chest Trauma	Vascular Injury	Brachial Plexus injury	Soft Tissue Injury	Crush injury
No. of Patient	100	15	27	1	5	3	1	2	10	2
0/0ge	60.25	9.04	16.27	0.60	3.01	1.81	0.60	1.20	6.02	1.20

Most of patients got discharged within ten days of admission and only one patient was detained for two months.

Hundred patients (60.25%) had head injuries, followed by fracture bones, 27 patients (16.27%) and poly trauma 15 patients (9.04%).

Majority of the patients 81.93% were given conservative treatment and in 18.70% of patients surgical intervention was done.

Discussion

It was a major earthquake in recent times, which devastated the large parts of Pakistan administered Kashmir and adjoining area of North Pakistan. District Baramulla, followed by district Kupwara were worst hit in Kashmir valley. [6] Total no of patients admitted in SKIMS were166, with no particular dominance of either sex. Children had to suffer most as revealed by the study, possibly due to overwhelming situation and being the vulnerable group.

Head and bone injuries were because of falling debris, as a result of collapsing buildings. It was evident that constructions of buildings in the affected area were either weak or not built according to prescribed norms.

Majority (143) of patients had a Glasgow coma score of 15. This prescribed scale on arrival to the Hospital provided an assessment to measure morbidity and mortality, which at the end proved correct as only 9 patients out of 166 patients died. The reason for better end result was because of initial first aid, quick transfer to the hospital and prompt, treatment whether conservative or interventional.

Conclusion

As Jammu and Kashmir falls in seismic zone 5, it needs a central trauma centre, having all the specialties and sub specialties under one roof. This will save precious time, as cross referral to other hospitals will not be needed.

References

1. Designing Earthquake resistant structures- Earthquake and natural calamities, 2008; 4 – 5.
2. Earthquake safety is Iran and other developing countries; Jan 2008.
3. On Shaky Ground, Association of Bay Area Governments, San Francisco, reports 1995, 1998 (updated 2003).
4. The Great San Francisco earthquake of 1906.USGS. Retrieved on 2008-09-15.
5. Noson, Qamar, and Thorsen Washington Division of Geology and Earth Resources information circular 85. Washington State Earthquake Hazards; 1988 .
6. The Jammu and Kashmir Earthquake; rapid assessment of impact and needs- Uri and Karnah Tehsil, University of Kashmir, Tata Institute of Social Sciences Mumbai, and action Aid India, September; 2006.