

Radiology – Bone Trauma – Qisas & Diyat Law

TAJAMMUL T H CH SHANIF T MOHYUDIN I A ZAHID

Department of Forensic Medicine & Toxicology, Allama Iqbal Medical College, Lahore.

Correspondence to Dr. Neelam Tajammul, Assistant Professor

Objectives: - To assess the Role of Radiology in finalizing the medicolegal certification (living) with particular emphasis on bone trauma according to law of hurt in Pakistan. **Setting:** Department of Radiology, Mayo Hospital, Lahore **Duration:** 26-03-1995 to 8-09-1996 (26th of March 1995 to 8th of September 1996). **Material and Method:** - 168 patients of medicolegal nature referred for Radiological assessment. The Protocol for identification of the cases was strictly observed. Request for Xrays was thoroughly scrutinized by the Radiologist on duty. Relevant Xrays were conducted and granted opinion. The information was collected from Police Record Medicolegal certificate, Xrays, opinion of Radiologist, treatment and operation notes. Specialized Performa was designed for this Purpose and variable were noted. **Results:** Total number of cases were 168. A large percentage was of males 156 (92.85%). Mean age in the case of males about 32 years and in females 33 years. 131 (77.97%) of the cases were positive for radiological assessment (like shows of metallic densities and fractures). There were total 132 fractures of the various bones of the cases. Fractures due to blunt weapon were in 95 cases (71.96%) and due to fire arm in 37 (22.03%). Maximum involved area was lower limbs Fractures (55.4%) and minimum involvement was of lumbo sacral region 5 fractures (3.8%). Types of fractures (with displacement, Comminuted and without displacement) were noted. Maximum number of fractures were with displacement (55.4%) and minimum were comminuted 27 (24.45%). **Conclusion:** - Radiology is the most suited specialty for medicolegal certification. Its importance is enhanced after the implementation of Qisas & Diyat Law. Radiology center with qualified and trained staff in medicolegal work must be attached to each medicolegal center. Males are the victim in large percentage of the cases and that to in productive age group.

Keywords: Bone trauma, diyat law, radiology, qisas

The word "Injury" denotes any harm what ever illegally caused, to any person, in body, mind, reputation or property'. Any medical fact, opinion or technique when used by law enforcement or in the administration of justice becomes a medicolegal issue. While dealing with medicolegal issues, one has to use his all senses, knowledge and expertise.

Medicolegal certification is an important as well as sensitive task carried out at centers catering medicolegal services. A medical report on wounding whether prepared by the doctor who first sees the victim or the pathologist called upon to make a necropsy is always, likely to play an important part in any subsequent legal proceedings².

The statistical evaluation of the record of various medicolegal centers of the Punjab indicate that there has been a definite increase in the workload of such cases like Accident and Emergency department medicolegal cases entertained in 2001 were 463 where as in 2004 there are 2236. In whole of Punjab cases in 2001 were 2,160 and in 2004 were 1,78,377.

It highlights the importance of improving the centers and associated specialties of medicine which help to streamline the medicolegal certification.

While finalizing the cases of injuries many times the medicolegal examiner seeks the help / opinion of the consultants of allied specialties such as Surgical, Medical, Ear, Nose and Throat and Eye e.t.c. However "Radiology plays the most important role to play in Forensic Pathology. The Permanence and acceptability of radiographs make it particularly useful in demonstrating an internal injury (e.g. fractured laryngeal bone) to a judge or jury".

Radiology also has its place in the investigation of violence in the living " (3) The Radiology helps the medicolegal examiner in determination of Identity of a skeleton (4). It holds true in the cases of living persons also. In trauma cases the details of the fire arm injuries (5) , the depth of penetrating injuries (Pneumothorax, hemothorax, air under the diaphragm) and opinion about the blunt injuries (fractures etc) cannot be given without radiological assessment.

In our neighboring countries like India medicolegal injuries are still declared as Simple, Grievous and Dangerous.(6) But in Pakistan since 1990 new law (7) has been introduced and the final declaration of the injuries is being done on the basis of this law. While finalizing the injuries according to this new law, Xray examination not only helps in detecting fractures of various bones but can also determine / establish whether displacement of ends of the bones has taken place or not? This is essential because these two entities are mentioned in different section of the new law. There is a strong need to establish well equipped Xray Centers with fully qualified and trained Radiologist attached to all medicolegal centers.

Setting: Department of Radiology, Mayo Hospital, Lahore **Duration:** - 26-03-1995 to 8-09-1996 (26th of March 1995 to 8th of September 1996)

Material and Method: - 168 patients of medicolegal nature referred for Radiological assessment.

The Protocol for identification of the cases was strictly observed. Request for Xrays was thoroughly scrutinized by the Radiologist on duty. Relevant Xrays were conducted

observed and granted opinion. The information was collected from Police Record Medicolegal certificate, Xrays, opinion of Radiologist, treatment and operation notes. Specialized Performa was designed for this purpose and variable were noted.

Results: -

Total No of Cases 168

Referral Center

Referred from causality medical officer 163 97.02%

Referred from Medicolegal examiner of other institutions. 05 2.98%

(as shown in Figure-1)

Sex :

Male 156 92.85%

Female 12 07.15%

(as shown in Figure-2)

Age:

Male 7 to 80 years

About 32 years (mean)

Female 24 to 45 years

About 33 years (mean)

Type of Cases :

Cases of Physical Trauma 167 99.4 %

Cases of Pregnancy 01 0.6 %

(as shown in Figure-3)

Radiological Assessment:

Positive findings

(shadows of metallic densities, fractures) 131 77.97%

No Findings 37 22.03 %

(as shown in Figure-4)

Number of Injuries:

Multiple Injuries / person 102 61.08 %

Single Injury / person 65 38.92 %

Fractures:

Total number of fractures involving various bones 132

Due to Blunt Weapon 95 71.96%

Due to fire arm Weapon 37 28.04%

(as shown in Figure-5)

Area of the body involved (Fractures)

Lower Limbs 73 55.4%

Upper Limbs 30 22.7%

Head 18 13.6%

Chest 6 4.5%

Lumbosacral 5 3.8%

(as shown in Figure-6)

Types of Fractures: (With displacement, comminuted, without displacement)

Area of the Body	With Displacement	Comminuted	Without Displacement	Total	%age
Lower Limbs	50	15	8	73	55.4
Upper Limbs	15	7	8	30	22.7
Head	5	-	13	18	13.6
Chest	3	-	3	6	4.5
Lumbosacral	-	5	-	5	3.8

Figure-1 Referral Center (n=168)

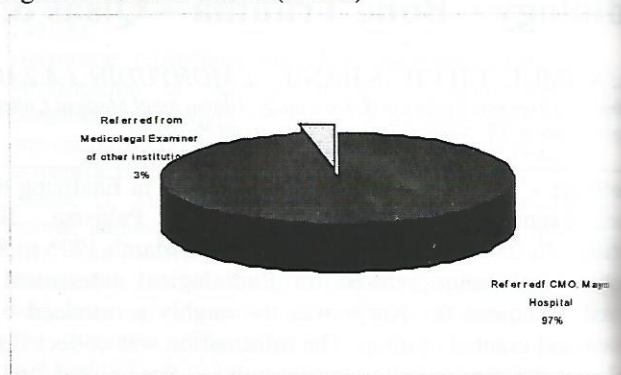


Figure-2: Male Female Ratio (n = 168)

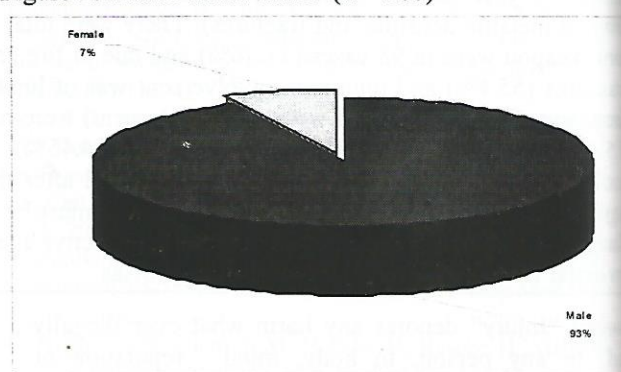


Fig. 3: Type of cases (n=168)

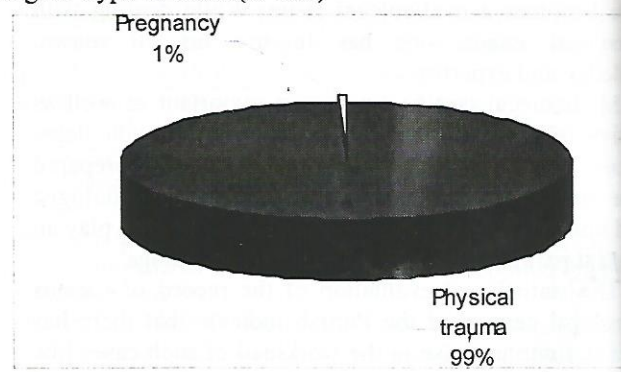


Fig. 4: Radiological assessment (n=168)

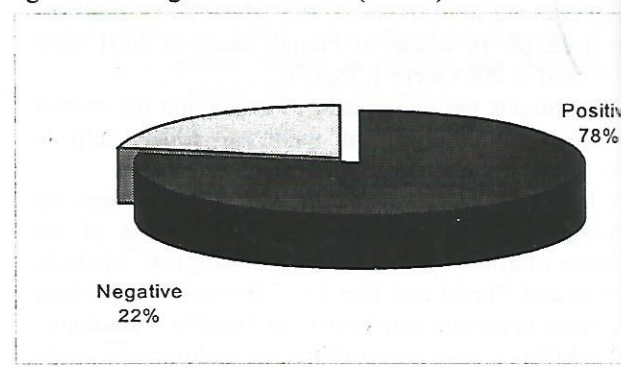


Fig. 5: Fractures (n=132)

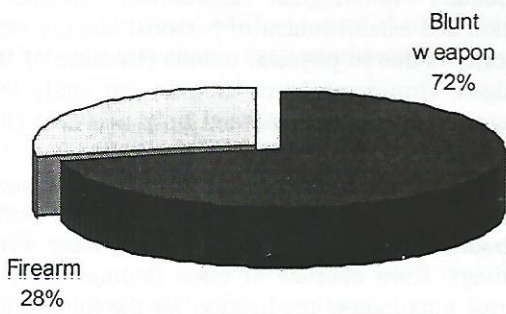
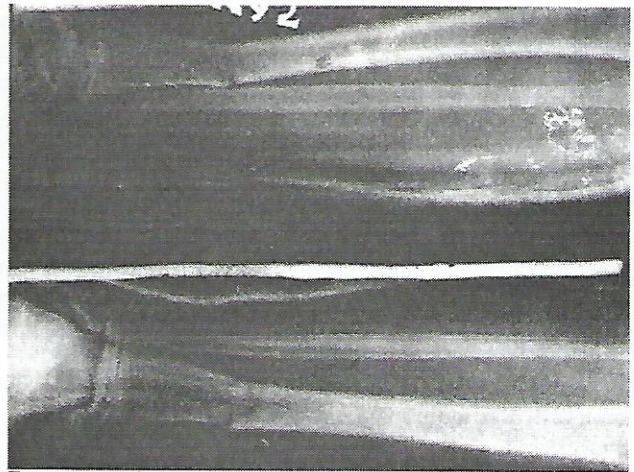
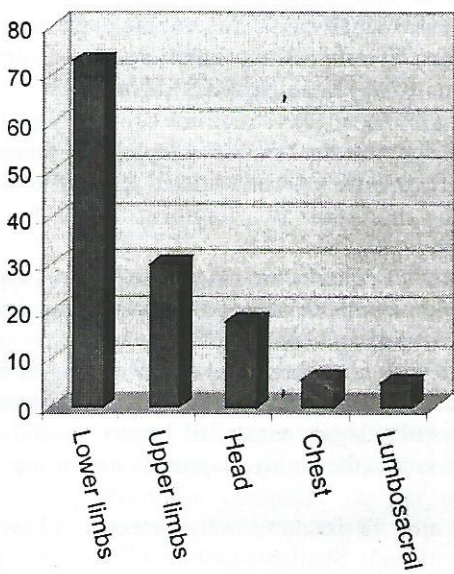
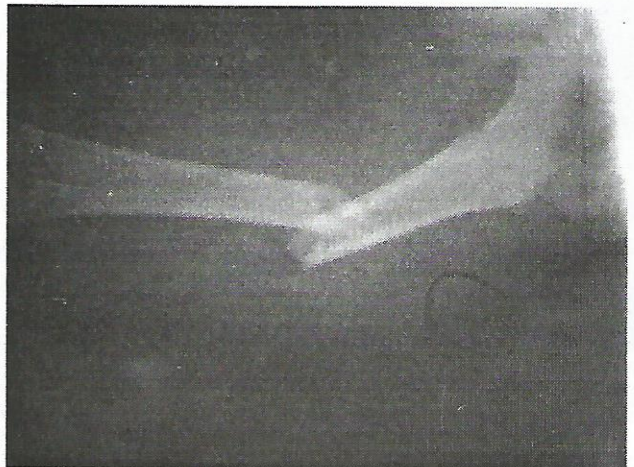


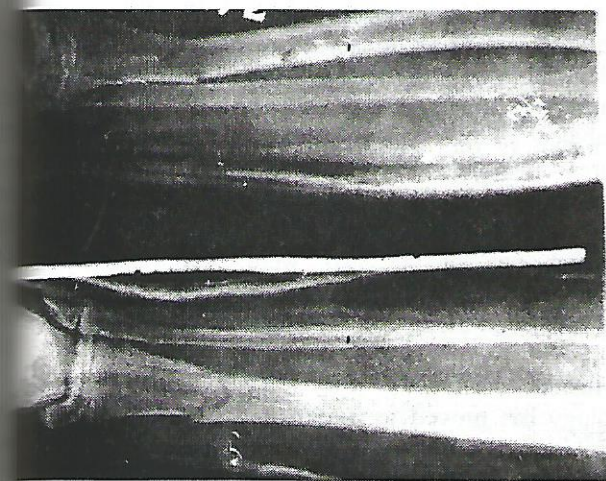
Fig. 6: Areas of body involved (n=132)



Fractures without displacement of the ends of the bones. (Jurh Ghayr-jaifah hashimah).



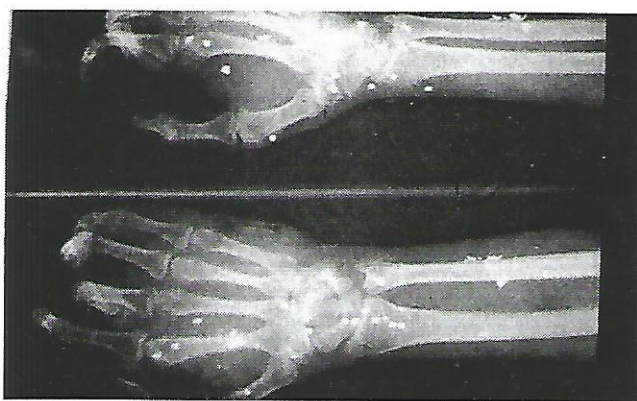
Fracture with displacement of the ends of the bone (Jurh Ghayr-jaifah munaqqilah).



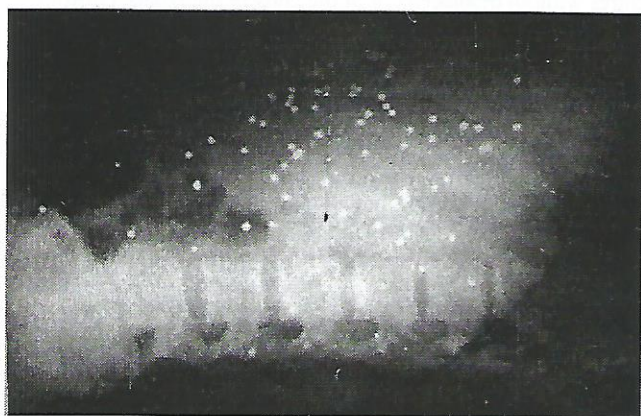
Fractures without displacement of the ends of the bones. (Jurh Ghayr-jaifah hashimah).



Fracture without displacement of the ends of the bone (Jurh Ghayr-jaifah hashimah).



Numerous circular radiopaque shadows of metallic density.



Numerous circular radiopaque shadows of metallic density.

Discussion:

In this study 163 cases (97.02%) were referred by CMO Mayo Hospital Lahore. while 5 cases (02.98%) were received from medical examiners of other institutions. Mayo Hospital Lahore is one of the oldest/prestigious institutions, which receives medicolegal cases from other institutions for expert opinion / second opinion, because this hospital is well equipped with modern diagnostic facilities.

The reason for the large number of males i.e 156 (92.85%) as compared with 12 females cases (07.15%) is that males being extroverts possess aggressive traits so are involved more in medicolegal cases. It is indicated in another study as (Male victims dominate female victims making a toll of 186 out of 215, (87 %) (8) Male preponderance is there in another study⁹.

Mean age of males in this study is 32 years and that of females is 33 years. This age group is more liable to fall victim to medicolegal atrocities. The great proportion of the victims were in the prime of youth with 42.5 % in the age bracket of 21-30 years and 20.41% in 31-40 year age group with a decreasing trend as age increased or decreased beyond this central peak¹⁹, meaning there by that productive age group is involved.

In every medicolegal center of Punjab the cases which require radiological assessment include medicolegal certification and establishment of personal identity etc. but vast majority is due to physical trauma (Because of Blunt Sharp edged, firm arms burns etc). In our study 99.4% cases were of physical trauma and only one case (0.6%) was of pregnancy.

In 131 cases (77.97%) there were findings of medicolegal importance such as fractures and metallic foreign bodies while in 37 cases (22.03%) there were no such findings. Even absence of these findings has got medicolegal importance/ implication for the finalization of the legal nature of the injury for court purposes.

Fractures detected in 132 cases. 95 (71.96%) as a result of blunt trauma while 37 (28.04%) due to firearm injuries. This is also indicated in another study where number of medicolegal cases due to blunt trauma were more than due to firearm. Blunt trauma was most common in study conducted at Jinnah Hospital Lahore¹¹.

A fracture is a break in the structural continuity of bone. In a complete fracture the bone is completely broken into two or more fragments. A comminuted fracture is one in which there are more than two fragments¹². The fracture may be aligned or displaced.

In this study Fractures are categorized in to 3 types i.e fractures with displacement of ends, fractures without displacement of ends and comminuted fractures.

Fractures with or without displacement of ends fall in different sections of law. Similarly in comminuted fractures as well, legal nature of injury would vary depending upon whether bony fragments are in the same line or not?

In head area 18 fractures were detected, 13 without displacement of ends Shajjah-i-hashimah¹³ and in 5 cases there was displacement of the ends of the bones (Shajjah-i-munaqqilah)¹⁴.

Majority of fractures were on the limbs. The fractures of the limbs and bony trunk without displacement of ends are labeled as Jurh Ghayr-jaifah hashimah¹⁵ While fractures with displacements of bony ends in such cases are labeled as Jurh Ghayr-jaifah munaqqilah (16). 10 fractures involving Ribs and Limb Bones were Jurh Ghayr-jaifah hashimah 68 cases were Jurh Ghayr-jaifah munaqqilah. As for as the comminuted fractures are concerned out of 27, 20 were Jurh Ghayr-jaifah munaqqilah and 7 Jurh Ghayr-jaifah hashimah, according to Qisas & Diyat Law.

Conclusion:

Radiology has proved to be the most useful aid for the medicolegal certification. A large percentage of the cases will not be finalized till we have the Radiological opinion. As the medicolegal workload has been distributed throughout the Punjab. Therefore a well equipped X-ray center along with a qualified and well trained Radiologist in medicolegal work is highly essential with each

medicolegal center. This is the need of the hour. It may be pertinent to mention that advance Radiological Techniques like CAT scan and MRI etc may also be used where the technology is available and situation arises.

The mean age of the victims (Male 32 yrs and Female 33 yrs) in the study is the productive age group. This has a great importance on the family and society.

Male are dominant victim with a very large percentage. They are out of the houses and are involved in discussion disputes quarrel and fights. Though the working females are on the increase but they look to be more civilized and avoid disputes quarrels fight e.t.c

Blunt trauma is common since this is a weapon which is always present in the environment and easily accessible.

- There is a dire need to inculcate the sprit of "LIVE AND LET LIVE" in the society. It is here where the media, social reformers must act and play their role.
- The Qisas and Diyat law needs modification. There are some suggestions / recommendations published in Pakistan Law Journal (17). Such recommendations are for the concerned authorities who are interested to make, **A PAKISTAN FREE OF CRIME AND CRIMINALS.**

Acknowledgement: -

Acknowledgments are definitely due to Dr. Sohail Saqlain Director Admin. AIMC for his guidance and association in this regard. The authors are thankful to Dr. Qamar Sardar Assistant Prof. Radiology, for his coordination, who is a nice professional colleague and helped where ever it was required. The study would not have been in this shape if the help from the computer section of Allama Iqbal Medical College, Lahore, was not there.

Reference:-

1. Pakistan penal code section 40.
2. Bryl Cyril John Polson, DJ Gee, Bernard Knight. 4th edition 1985. chapter 3 P 92 P2.
3. J. K. mason, RA McCall Smith Butter worths Medical Encyclopedia 1987; P 456-466.
4. Wilton Marion Krogmana PHD; The Human Skebton in Forensic Medicine, 1978, chapter X Page 277-299.
5. Abdullah Fateh, Medicolegal Investigation of Gun Shot wounds 1978 chapter 7; P 72-81
6. C. J. Parikh, Parikhs Text Book of Medical Juris prudence, 6th edition 1999; P 4.59-4.60.
7. Qisas & Diyat Law.
8. Abdul Rasheed Mian, Abdul Majeed, Masood Malik et all, Analysis of Unnatural Death in Rawalpindi in 1997; vol 49 no1 June 1999 PAFMJ.
9. Azhar Mahmood Javaid, M. Nawaz Anjam, M. Iqbal Mughal et all; Bones, Bullets and Radiology, Med Form vol 10 No II, Nov 1999 P11-13.
10. M. Zahid Bashir, Pervaiz A Rana, Saeed A Mailk et all Pattern Of deaths due to firm arm in Lahore – A 12 years study. Pakistan Postgraduate medical journal vol 11 No. 3 July to September 2000, page 109-114.
11. N Tajamul, TH. Ch. Amjad Bhatti, Shahid Hanif, Profile of medicolegal cases at Jinnah Hospital Lahore. Annal vol II No. 3 July to September 05 P 332-335.
12. Apley and Soloman, Apleys system orthopedist and fractures 7th edition 1993. Chapter 23 page 515-518.
13. Qisas & Diyat Law Section 337-3 (III).
14. Qisas & Diyat Law Section 337-3 (IV)
15. Qisas & Diyat Law Section 337 E-3 (V)
16. Qisas & Diyat Law Section 337 E-3 (VI)
17. Dr. Shahid Hanif, Qisas and Diyat Ordinance, Improving the Law, Pakistan Law Journal March 1997 Page 46-4