Radiology – Bone Trauma – Qisas & Diyat Law

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Objectives: To assess the role of Radiology in finalizing the medicolegal certification (living) with particular emphasis on bone trauma according to law of harm 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 followed. Request for X-rays was thoroughly scrutinized by the Radiologist on duty. Relevant X-rays were conducted, viewed and granted opinion. The information was collected from Police Record Medicolegal certificate, X-rays, opinion of pathologist, treatment and operation notes. Specialized Form was designed for this purpose and variable were noted.

Results: Total number of cases were 168. A large percentage of cases were males 156 (92.85%). Mean age in the case of males was about 32 years and in females 33 years. 131 (77.97%) of the cases were positive for radiological assessment (like arrows 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 or without 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 suitable specialty for medicolegal certification. Its importance is enhanced after the implementation of Qisas & Diyat Law. Radiology center qualified and trained staff in medicolegal work must be attached to each medicolegal center. Males are the victim in a 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 suffered by 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 all his senses, knowledge and expertise.

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

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 the Accident and Emergency department medicolegal cases entertained in 2001 were 463 whereas as in 2004 the number is 2236. In whole of Punjab cases in 2001 were 1,216 and in 2004 were 1,78,377.

It highlights the importance of improving the centers of associated specialties of medicine which help to utilize 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, Dentistry, Nose and Throat and Eye etc. However “Radiology plays the most important role to play in Forensic Pathology. Permanence and acceptability of radiographs make them particularly useful in demonstrating an internal injury (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. 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, X-ray 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 X-ray Centers with fully qualified and trained Radiologist attached to all medicolegal centers.

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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)

<table>
<thead>
<tr>
<th>Area of the Body</th>
<th>With Displacement</th>
<th>Comminuted</th>
<th>Without Displacement</th>
<th>Total</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Limbs</td>
<td>50</td>
<td>15</td>
<td>8</td>
<td>73</td>
<td>55.4</td>
</tr>
<tr>
<td>Upper Limbs</td>
<td>15</td>
<td>7</td>
<td>8</td>
<td>30</td>
<td>22.7</td>
</tr>
<tr>
<td>Head</td>
<td>5</td>
<td>-</td>
<td>13</td>
<td>18</td>
<td>13.6</td>
</tr>
<tr>
<td>Chest</td>
<td>3</td>
<td>-</td>
<td>3</td>
<td>6</td>
<td>4.5</td>
</tr>
<tr>
<td>Lumbosacral</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>5</td>
<td>3.8</td>
</tr>
</tbody>
</table>
Figure 5: Fractures (n=132)

Blunt weapon 72%
Firearm 28%

Figure 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).

Fracture without displacement of the ends of the bone (Jurh Ghayr-jaifah hashimah).
In every medicolegal center of Punjab the cases which require radiological assessment include age 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 Lahore. 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 fragments. The fragments may be aligned or displaced.

In this study Fractures are categorized into 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 depend upon whether bony fragments are in the same line or not?

In head area 18 fractures were detected, 13 without displacement of ends Shajah-i-hashimah and in 5 cases there was displacement of the ends of the bones Shajah-i-manaqilah.

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 hashimah. While fractures with displacements of bony ends in such cases are labeled as Jurh Ghayr-jaifah munaqilah.

Conclusion:
Radiology has proved to be the most useful aid for 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 spirit 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.

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