LACERATION OF THE HEART WITHOUT SIGNIFICANT EXTERNAL INJURY -A CASE REPORT

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ABSTRACT

In a case of vehicular accident the heart was found lacerated, when there were only some scratch abasions on the chest externally without fracture of the ribs or sternum. This case is reported to highlight the possibility of a serious fatal internal injury without significant external injury in the chest.

Key words : Blunt force injury, laceration of heart

INTRODUCTION

Vehicular accidents are very common in Manipur because of poor traffic rules, congested road users and poor road conditions. Fatal injuries are commonly encountered. In this case, a fatal laceration of the heart was found in Postmortem examination (PME) without much external injury in the chest.

CASE REPORT

On 17-9-03, at 1.40 pm, one 18 yr old Meitei boy of 5-1/2 feet weighing 53 kg and of average build was brought for PME at the mortuary of Regional Institute of Medical Sciences, Imphal. He was the driver of a scooter who met with a self-accident on the same day at 10.20am. Soon both the driver and pillion rider succumbed to their injuries and died at 10.30am in a Mission hospital.

POSTMORTEM FINDINGS

External

There were multiple small-lacerated wounds with abrasions on the right side of face over an area of 16cmX4cm, red in colour. Multiple scratch abrasions were present on the front of the neck and left side upper part of the chest upto the level of 2nd rib, over an area of 20cmX9cm. There were also multiple scratch abrasions over the sternum and the medial half of the right side front of chest, over an area of 28cmX 14cm. Multiple small abrasions were present on the anterolateral aspect of left forearm, 32cmX8cm and on the front of left thigh, 39cmX16cm.

Internal

Patchy extravasations of blood in the muscle of anterior chest wall were present. There was no fracture of ribs or sternum. Laceration 8cmX2cm, cavity deep of right ventricle of heart on the anterior surface was present, along with laceration of pericardium. Contuson 2cmX1cm on the apex of the heart was present. About 3.5 litres of blood was present in the thoracic cavity. There were some patchy contusions on the hilar and the interlobar regions of both lungs. Both the coronary arteries were thoroughly examined after transverse dissection and found to be patent.

From the findings, it can be concluded that the death was due to shock and haemorrhage resulting from the laceration of the heart produced by blunt force injury to the chest, accidental in nature.

DISCUSSION

In a study of thoracoabdominal injuries in fatal road traffic accident in NE Delhi, injuries to the chest and abdomen combined proved to be the most fatal as most of the victims died on the spot. Usually lung and heart involvement was seen in the chest with or without fracture of ribs. The injuries to the
heart and lungs could be due to the impact of these organs; to the solid rib cage and shearing force to the hilum of the lungs and heart by the impact of the moving vehicle, in victims without causing any rib fracture.2.3. The extensive laceration of the heart without fracture of the sternum or ribs could be explained by the above factors. Since the victim in this case was driving the scooter, he could have impacted against the ground when he was thrown over, which was somewhat, accounted for by the multiple scratch abrasions on the chest. We can also discuss one medicolegal aspect that whether the rupture of the heart had occurred spontaneously just before accident. The heart is liable to rupture spontaneously following myocardial infarction from obstruction of a coronary artery by thrombosis, embolism, spasm, etc. Such rupture nearly always occurs over lateral, anterior or posterior wall of left ventricle in or near the apex; it can sometime occur in right ventricle or in the auricles. Such rupture is usually small and single[4]. But in this case it is clearly traumatic because the coronary arteries were patent, pericardium was lacerated and there was a contusion near the apex of the heart.

Conclusion

Vehicular accidents are a daily occurrence in today’s congested traffic. The case report highlights the possibility of fatal internal injury without significant external injury to help in the prompt management of such cases.

References