

Death of a Pedestrian due to Fatal Scrotal Trauma: a Case Report

Vidhate S^{1*}, Pathak H¹, B.Deokar R¹

¹ Department of Forensic Medicine and Toxicology, Seth G S Medical College and KEM Hospital, Mumbai, India

ARTICLE INFO

Article Type:
Case Report

Article History:
Received: 3 Nov 2015
Revised: 9 Nov 2015
Accepted: 23 Dec 2015

Keywords:
Scrotal Hematoma
Accident
Blunt Trauma
Instantaneous Death
Pedestrian

ABSTRACT

Background: Male external genitalia comprising penis and scrotum though exposed externally, being a mobile anatomical structure are less prone to injuries during a vehicular accident. Injuries are reported usually during sports activities, violent sexual acts and sometimes vehicular accidents. Injuries to scrotum, penis or adjoining structures may lead to temporary or permanent impotence or infertility or both.

Case Report: A 53 years old male sustained injuries as a result of accident with a car while he was walking along the roadside. He was brought immediately to a tertiary care hospital and was treated by a quick response team of doctors in emergency department. Despite of all resuscitative measures by expert doctors, he could not be revived. Autopsy revealed enlarged bluish red colored scrotum with loss of rugosities associated with multiple other injuries. On dissection of scrotum, it was showing a dark red colored hematoma covering whole scrotum. Most frequently, hematoma covering whole scrotum is due to rupture of tunica albuginea, with tunica vaginalis pooling to the epididymis. Death in this case was attributed to scrotal injury.

Conclusion: Even though blunt trauma is the commonest mechanism causing about 85% of scrotal trauma, it is often missed on routine autopsy procedure. At least in cases of instantaneous death following a vehicular accident, scrotum must be properly examined.

Copyright©2016 Forensic Medicine and Toxicology Department. All rights reserved.

► *Implication for health policy/practice/research/medical education: Death of a Pedestrian due to Fatal Scrotal Trauma*

► *Please cite this paper as: Gorakh-Vidhate S, Pathak H, B. Deokar R. Death of a Pedestrian due to Fatal Scrotal Trauma – a Case Report. International Journal of Medical Toxicology and Forensic Medicine. 2016; 6(2): 108-11.*

1. Introduction:

Male external genitalia comprising penis and scrotum though exposed externally, being a mobile anatomical structure are less prone to

injuries (1). Injuries are sustained usually during sports activities, violent sexual acts and sometimes vehicular accidents (2). Vehicular accidents contribute significant minority (10%) (3).

Injuries to scrotum, penis or adjoining structure may lead to temporary or permanent impotence or infertility or both (2). Even though survived of a fatal scrotal

Corresponding author: Vidhate S, MD. Junior Resident, Department of Forensic Medicine and Toxicology, Seth G S Medical College and KEM Hospital, Mumbai, India
E-mail: sunilvidhate95@gmail.com

trauma, psychological disturbance and sexual dysfunction may be the killing one!

Testes are often spared due to tough tunica albuginea, cremastic reflex and dartos muscles in scrotal wall. However, if they are trapped against thigh or bony pelvis and severe force applied (estimated to be greater than 50 Kg), rupture of the tunica albuginea may occur (3). Blunt trauma to scrotum causes local hematoma, ecchymosis, rupture of testicles or injuries to epididymis and spermatic cord (4).

Scrotum is rich in blood supply. Testes are mainly supplied by paired testicular arteries directly arising from abdominal aorta as well as collaterals such as cremastic artery and artery to ductus deference. Rest of the external genitalia is supplied by internal pudendal artery a branch of internal iliac artery (5). Such a heavy blood supply makes it more prone to hematoma involving whole scrotum. Contusions or hemorrhage in scrotal wall may be missed due to its dark pigmented color. Tunica albuginea is spared in intratesticular hematoma and disrupted in testicular rupture. Animal and human bites may involve scrotum and rarely its contents. Torsion of testes due to blunt trauma is a well-recognized entity (6).

2. Case Report:

A 53-years old retired male was walking on roadside along with one of his friends after dinner as usual. They noticed a car coming in reverse direction towards them. The elder male, because of his limitations of reflex movements, sustained injury due to hit by the car and his friend being younger one and escaped by jumping towards. He sustained injuries, primarily located over lower half of the body. Few injuries were present over one side of upper extremity as he was dragged on road by the speeding car. He was immediately rushed to a nearby tertiary care hospital in unconscious state. Meanwhile police were informed about the incidence. He was resuscitated by a team of expert doctors in emergency department. Despite of all resuscitative measures he succumbed to death within a short period of time. The body was handed over to Police for further procedure. The inquest was performed and



Fig. 1. Enlarged, contused, bluish red coloured scrotum with loss of rugosities. Note the demonstration of dark red coloured hematoma on incision.



Fig. 2. Dark red colored diffuse hematoma occupying whole scrotum.



Fig. 3. Internal examination of testes hemorrhagic tunica vaginalis and epididymis.

statements of eyewitnesses were recorded. Body was sent to Department of Forensic Medicine and Toxicology for autopsy.

On external examination, it was a body of an elderly male of length 169 cm and weight 61 Kg. Rigor mortis was developed in upper half of the body. Patchy post-mortem hypostasis was noted over back. Multiple bright red colored abrasions were present over anterior aspect of lower extremity and right side of upper extremity of the body. Few abrasions and lacerated wounds were also present over face and scalp respectively. On examination of external genitalia, penis was intact but scrotum was enlarged, contused, bluish red in color with loss of rugosities (Figure 1). On palpation, it was firm in consistency. The scrotum was opened externally to examine the internal structures. A dark red colored hematoma was covering the whole scrotum was present (Figure 2). Testes were carefully removed out of the scrotum so as to prevent from artifacts and examined. Tunica albuginea was disrupted indicating the rupture of testes. Tunica vaginalis was hemorrhagic but not disrupted. Hematoma was also noted in epididymis and spermatic cord (Figure 3). On dissection of testes, hematoma was noted occupying whole testicular parenchyma. Death was attributed to 'Blunt trauma to Scrotum'.

3. Discussion:

Literature shows that 85% of the scrotal injuries are due to blunt trauma (1, 7, 8). While the exposed and dependent nature of scrotum makes it vulnerable to traumatic injury, the relative mobility of scrotum often serves to protect it from serious injuries (1). Blunt trauma to male external genital is often due to violent activities such as assaults with direct blow to scrotum, sports activities, accidents at workplace or vehicular accidents (2). Vehicular accidents contribute significant minority (10%) (3). Self-mutilation of external genitals, although rarely reported due to view of authors about such incidence, has been previously reported. The first case report of genital auto-emasculatation was in 1901, describing a

27 years old schizophrenic who removed his scrotum *in toto* (9).

In present case, the victim was walking and the vehicle came in reverse direction. The spot inquest, mentioning details of car, was showing height of the car from rear side i. e. till deck was 96 cm from ground level. It was lesser than the height of the person. Hence the lower extremity sustained maximum injuries. Elderly pedestrians are more prone to sustain injuries in vehicular accidents due to restricted mobility (10). Considering the age of person in present case, it was also a contributing factor for the same. As the vehicle was accelerating in reverse direction in early evening on sparsely populated road, the driver might not be able to notice the pedestrians. Still it should be considered a negligent act on behalf of a driver. Scrotum is a mobile anatomical structure and sustained fatal injury. The force applied by the speeding vehicle on thighs should be greater than 50 Kg as it resulted in rupture of tunica albuginea (3). Although attempts were made by expert doctors in emergency department, they could not revive him. No other injury over body was sufficient to cause death individually in ordinary course of nature. Examination of scrotum on autopsy revealed the extent of injury. Scrotal trauma was enough to cause death.

The diagnostic procedure of scrotal injury consists of taking a detailed history and inspection of wound. Duplex ultrasound may be helpful in accessing the extent of injury. Hematoma needs immediate operative exploration and drainage. Also further bleeding should be prevented. The risk of infection can be diminished by treatment within six hours of injury (4). Proper multidisciplinary approach is important for treatment of such cases with the view of treating not only the injury but also reconstruction of genitalia anatomically and functionally (2). Psychological aspect leading to impotence and infertility should not be neglected.

Children and elderly are more prone to pedestrian injuries (10). As adults have gradual losses of hearing, vision, reflexes and flexibility, put them at risk as pedestrian

collision (10). The severity of pedestrian injuries depends upon many factors including vehicle speed, angle of impact of vehicle upon pedestrian, the part of body that first comes in contact of vehicle, the part of vehicle that impacts first and the vehicle design (10).

4. Conclusion:

Male genital has less prone to injuries on virtue of its being a mobile anatomical structure, should not be neglected during routine autopsy procedure. If survived of the genital trauma, the role of physician is to apply multidisciplinary approach in treatment considering psychological and physiological damage. Proper history of the incident in case of a vehicular accident should be obtained before proceeding for autopsy. All the factors mentioned above like height of person, height of the vehicle, time of incidence, speed and angle of impact of vehicle, the acceleration or deceleration of vehicle, probable acting force etc. should be taken into consideration in case of pedestrian accident. Genital injuries, though solitary, should be considered as an emergency and treated promptly considering all approaches.

5. References:

1. Mante S, Yeboah E, Adusei B, Edusa S. Foreign body in scrotum following a boat engine blast accident. *Ghana Med J.* 2013;47(1):50-52.
2. Khan MK. Unusual Scrotal Injury by Cycle Hand Brake-A Case Report. *International Journal of Medical Toxicology and Forensic Medicine.* 2014;4(1):23-26.
3. Wolf-Bernhard S, Frank H. comhaire, Timothy B. Hargreave. *Andrology for the Clinician.* Germany: Springer; 2006. Book.
4. Van-Der-Horst C, Martinez-Portillo F, Seif C, Growth W, Junemann K. Male genital injury: Diagnostics and treatment. *BJUI.* 2004;93(7):927-30.
5. Testicle. [Internet] 2015; Available from: <https://en.wikipedia.org/wiki/Testicle>.
6. Seng YJ, Moissinac K. Trauma induced testicular torsion, a reminder for unwary. *J Accid Emerg Med.* 2000;17:381-2.
7. McAninch JW, Kanh RI, Jeffery RB, Laing FC, Krieger MJ. Major traumatic and septic genital injuries. *J Trauma.* 1984;24:291-8.
8. Cass AS, Luxenberg M. Testicular injuries. *Urology.* 1991;37:528-530.
9. Scotch D. Self-castration. Letter to the Editor. *JAMA.* 1901;36:370.
10. Chakravarthy B, Lotfipour Sh, E. Vaca F. Pedestrian injuries: Emergency care considerations. *Cal J Emerg Med.* 2007;8(1):15-21.