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Scrotal Trauma in a Motorcycle Accident Leading to a Partial Orchidectomy: Case Report

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Abstract

Scrotal trauma in motorcycle accidents (STMA) is a rare entity in the literature. In general, trauma to the genitals is not life-threatening. However, STMA can cause rupture of the testis with consequences that can lead to alteration of sexuality and reproduction. We present an STMA case managed in a rural hospital where various types of injuries arise from motorcycle accidents. A 20-year-old man without any previous pathology presented in our hospital with a swollen painful scrotum. One week prior to presentation, the patient with a speeding motorbike drove over a speed bump, and the frame of his motorcycle broke into two halves, violently striking his genitals and causing scrotal trauma. After examination and investigation, patient has consented to scrotal exploration which was carried out. A partial left orchidectomy was performed and the right testicle was healthy. The evolution was favorable and the patient was discharged on the 5th postoperative day. Prognosis at 6 months was good. It is possible that genital trauma related to motorcycle accidents will become more frequent in the future. This underscores the importance of educating motorcyclists to respect the Highway Code; and making practitioners aware of the risk of serious injury in the event of acute scrotal trauma.

Keywords

Scrotal Trauma, Motorcycle Accident, Orchidectomy, Case Report

1. Introduction

Incidence of testicular rupture secondary to blunt trauma has been reported in the past [1]. Road traffic accidents are the second most common cause of genital

trauma after gunshot wounds [2]. Scrotal trauma in motorbike accidents (STMA) is a rare entity in the literature [3]. Thus, series have been published with small numbers [3] [4] [5] [6] [7]. It is an emergency, and a delay in presentation could negate the chances of testicular rescue [8]. In general, trauma to the genitalia is not life-threatening [9]. However, STMA can cause rupture of the testis, with consequences that can impair sexuality and reproduction [10], which according to the WHO are determinants of health [11]. We present a rare case of STMA managed in a rural hospital where various types of injuries have occurred following motorbike accidents, with the aim of describing the resulting trauma lesions, their mechanism and management.

2. Case Presentation

A 20 year-old man, motorcycle taxi driver with a BMI of 24 kg/m^2, presented in our hospital center with a swollen painful scrotum after a scrotal trauma in motorbike accident. He had no previous pathology. At consultation in a primary health centre; a dose of anti-tetanus serum was administered, his right knee wound sutured, and antibiotics, analgesics, and non-steroidal anti-inflammatory drug were prescribed.

On examination, the patient's general condition was preserved, hemodynamic parameters were satisfactory, and there was no fever. The bursae were spontaneously painful as well as during mobilisation; and the wound on the right knee was infected. There was no abdominal pain or injury to any other part of the body except right knee. Patient had no significant past medical history.

Our clinical evaluation revealed that one week prior to the consultation, the patient on a speeding motorbike drove over a speed bump, and the frame of his motorcycle broke into two halves, violently striking his genitals and causing a scrotal trauma and a wound on the medial side of his right knee. Patient went to a primary health centre where he received care. Then he presented to our health centre with a painfull swollen painful scrotum a week after his first care.

Right scrotal ultrasound showed a right testis with regular outline, homogeneous echostructure and normal echodensity, estimated volume of 15.03 ml; absence of dilated veins; normal right epididymis; intra-scrotal collection and thin regular scrotal tunic. On left scrotal ultrasound, the testis was hypertrophic with regular and sharp contours, an estimated volume of 31.28 ml, a heterogeneous echostructure with hypoechoic parenchymal contusional areas; an epididymis surrounded by a fine echogenic hematic collection on the cephalic pole of the scrotal sac in relation to a haematoma; absence of dilatation of the veins; thin and regular scrotal tunics. C Reactive Protein was 58.7 mg/L (Normal < 3 mg/L), and there were no hyperleukocytosis on blood count. In our centre we do not have a trained sonographer to perform a genital ultrasound. The patient had to travel 40 km to another city for this ultrasound. Prior to ultrasound, causes of large acute postraumatic bursae had been suggested, including: post-traumatic scrotal inflammation, isolated scrotal haematoma, and scrotal haematoma asso-

ciated with testicular rupture; the latter diagnosis was retained. The presence of vascular blood-flow demonstrates testicular viability.

Scrotal exploration was carried out after taking consent from the patient. Under general anaesthesia, both testicles were approached via a midline longitudinal incision (Figure 1). After evacuation of a bilateral haematoma, a rupture of the left testicle was observed, type II according to American Association for the Surgery of Trauma (AAST), while the right testicle was healthy (Figure 2). We have considered that there was a contusion on the right side of the scrotum; grade I according to AAST. A partial orchidectomy of the left testicle was performed (Figure 3). Sutures were released and the knee wound was cleaned. Antibiotic therapy with Amoxicillin + Clavulanic Acid injectable 2 g per day was started for 10 days.

The postoperative period was uneventful. The evolution was favourable and the patient was discharged on the 5th postoperative day. Good wound healing was achieved with no complaints from the patient and the prognosis was good 6 months later.

Figure 1. Midline longitudinal incision.

Figure 2. Ruptured left testicle.

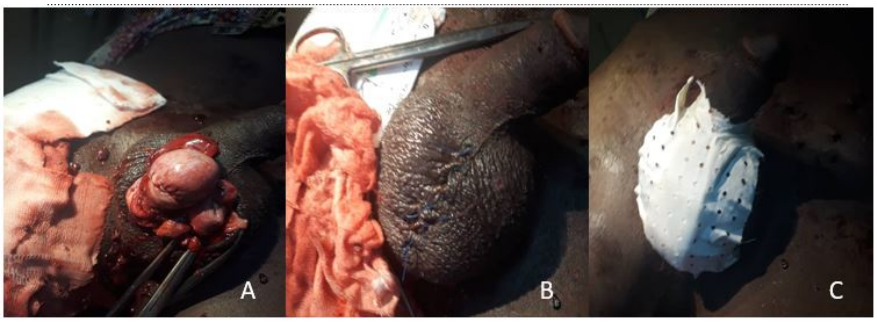

Figure 3. (A) Partial left orchidectomy, (B) Sutured raphe incision, (C) Scrotal dressing.

3. Discussion

STMA is rare in our context, despite the fact that motorcycles are a widespread means of transport [3]. Complications of non-sexual trauma to the genitalia are common in adults, unlike in adolescents [12]. Blunt trauma to the scrotum can result in rupture of the testicle [13], which was partial in our patient. Delays in diagnosis can occur in cases of genital injury due to motorcycle accidents [14]. In general, the faster the treatment (within 72 hours), the greater the chance of saving the testicle [1]. A growing body of evidence supports the legitimacy of early surgical intervention, with higher salvage rates and lower orchiectomy risks [15]. In our observation, the delay was greater than one week; integrity of the vascular pedicle and partial testicular rupture were the determining factors in good prognosis. These traumas are sometimes associated with other lesions that may require the practitioner's full attention [7] [16]. In our case, the practitioner did not pay particular attention to the patient's genital complaints and the wound on his right knee was treated as a priority.

Ultrasound is an excellent non-invasive test for detecting most testicular ruptures [3] [4]. At our facility, this was not possible. We consider scrotal exploration to be a diagnostic and therapeutic approach for such suspected injuries [1], and that surgical exploration should be performed if a haematocele is found in the genital examination without any ultrasound complement [15]. However, in view of the time that had elapsed, we requested an ultrasound scan of the scrotum in order to make a preoperative assessment of any lesions. The aim was to verify the integrity of the vascular pedicles and testicles.

Genital injuries frequently require operative intervention [13]. Emergency orchidectomy is rarely indicated unless the testis is non-salvageable and is completely shattered or infarcted [1]. Conservative approaches are recommended for patients like ours with delayed presentation [16]. In our case, this conservative treatment consisted of a partial left orchidectomy and evacuation of a bilateral haematoma.

The scrotum can be injured when the motorcycle enters a ditch and the passenger or driver is thrown upwards. The mechanism of occurrence of scrotal trauma in our case is similar to that described by Popoola [1]: the scrotum may then be squeezed between the seat and the perineum as the individual returns to

the seat. This may result in crushing of the scrotum or testicular rupture [1].

The lack of universal health coverage is sometimes an obstacle to optimal patient care [17]. However, in the event of scrotal pain following a motorcycle accident, it is up to the practitioner, after a thorough clinical examination, to make the victim aware of the need for surgical exploration.

4. Conclusion

The use of motorcycles as a means of transport is widespread in our context and increasing frequently; it is possible that genital trauma related to motorcycle accidents will become more frequent in the future. This underscores the importance of educating motorcyclists to respect the Highway Code, and of making practitioners aware of the risks of serious injury in the event of acute scrotal trauma.

Patient Perspective

The patient was globally satisfied with the care given.

Informed Consent

The patient has given informed consent, which can be made available on request.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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