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Traumatic testicular dislocation. A case report

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INTRODUCTION: Traumatic testicular dislocation (TTD) is a condition that usually occurs after direct blunt impact on the scrotum causing the testicle to migrate outside normal position, most frequently to the superficial inguinal region. We present a case of a 24-year-old man polytraumatized involved in a motorcycle collision, testicular dislocation was diagnosticated with ultrasonography and resolved with orquidopexy.

Keywords: Traumatic testicular dislocation, testicular trauma.

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Case report

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Traumatic testicular dislocation (TTD) is an uncommon event that corresponds to a traumatic displacement of one or both normally located test out of the scrotum. In the literature less than 200 cases has been reported and it usually happens after blunt trauma as a result of direct pressure exerted on the scrotum, been more common unilateral. [1,2] In the physiopathological mechanism of TTD, a cremasteric muscle spasm and rupture of the fasciae of the spermatic cord, are major contributing factors [3,4] and the most common site reported of TTD is superficial inguinal [5]

The first report was published in 1818 caused by wagon-wheel, since then, the most frequent mechanism changed for motorcycle collisions [2] In order to preserve testicular function, early diagnosis and treatment is imperative.

Case report

A 24-year-old man involved in a motorcycle collision four hours before, is presented to emergency room. Evaluation resulted in nonsurgical cranioencephalic trauma, closed left femur fracture in its proximal third, intense genital pain, abrasions in perineum and penoscrotum region, extended hematoma to genitals and an empty left scrotal sac. (Figure 1) There was not a history of undescendent or retractile testicle in the past. The patient underwent abdominal and inguinal ultrasound that reports left scrotal sac with severe inflammatory process, left testicle at level of proximal third of the inguinal canal and preserved blood supply at color doppler. Orchidopexy was proposed.

In the operation theater, with general anesthesia, an incision of 5 cm in left inguinal areal was performed, during exploration the left testicle was found between subcutaneous fascias. (Figure 2) At the first look, the testicle had ischemic appearance, but necrosis was not observed; (Figure 3) in the left scrotal sac 2 cm incision was made to recreate the anatomic space to descend the testicle, spontaneous adequate coloration when testicle total descents. (Figure 4) Without tension we used simple suture fixation with cromic 3-0, three cardinal points (inferior, lateral and medial) from albuginea to the dartos, no parenchymal damage was advertised, then scrotum was closed in two layers with a 3-0 absorbable monofilament. The patient had an uneventful recovery and was discharged one week later, after the intervention of Traumatology Department. Ultrasound follow-up at three and six months reported no retractile complications.

Discussion

TTD is a relatively uncommon complication of blunt testicular trauma, also referred as traumatic luxation of the testis, less than 200 total cases has been reported [1] this presumably reflects the protective mechanisms of the testis as its resilient tough outer capsule, its ability to be displaced within the scrotum and the reflex retractile capabilities of the cremasteric muscle. [5] Alyea described the possible locations of the dislocated testis, if testis was freely mobile and the external ring was intact. In order of

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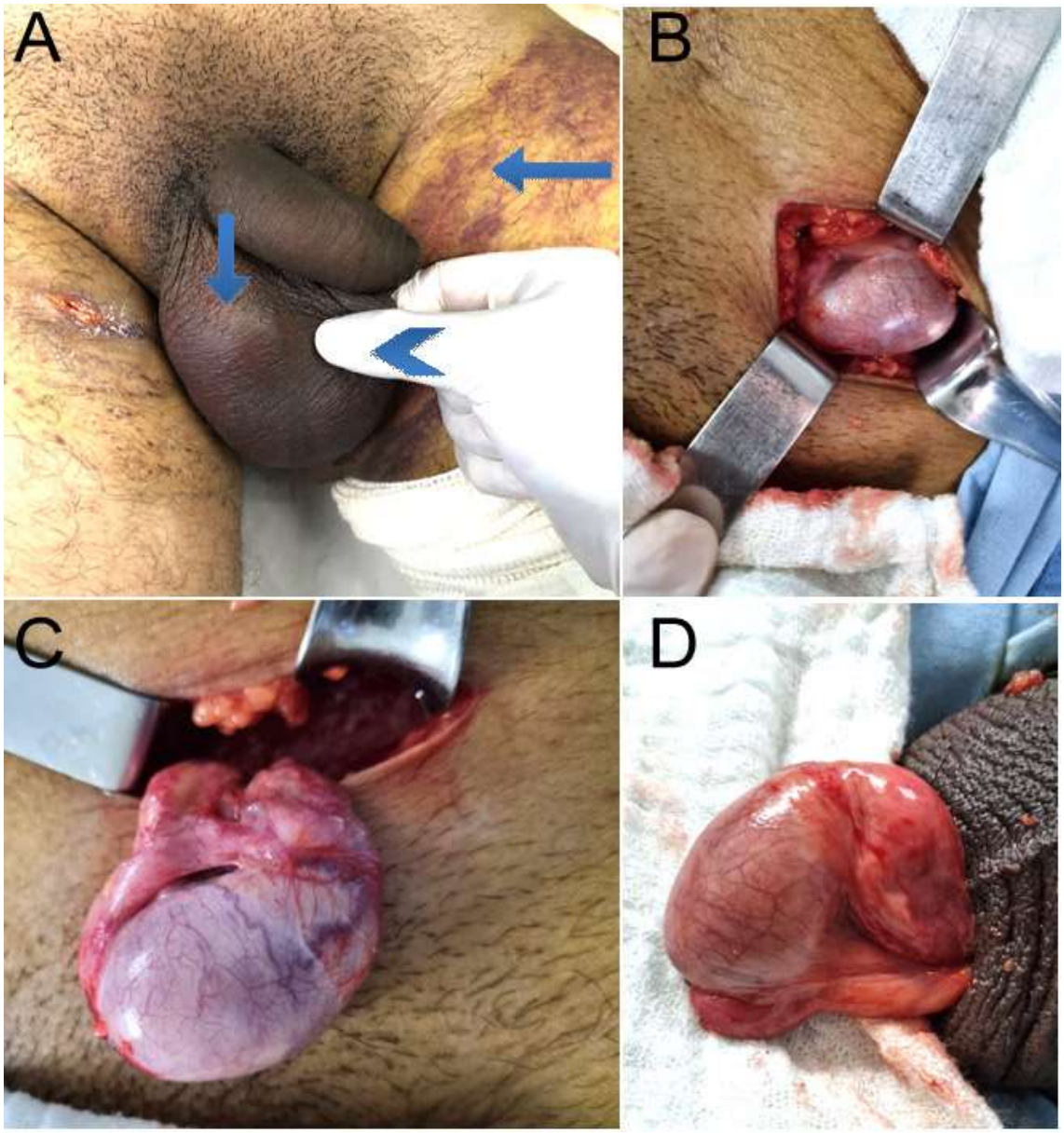

Table 1. A. Extended hematoma (arrow), empty left scrotal sac (head arrow), right testicle (upside-down arrow). **B.** First sight of left testicle in superficial inguinal fascia. **C.** Ischemic appearance of the left testicle. **D.** Spontaneous blood supply recovery after descend the testicle

frequency include superficial inguinal 50%, pubic 18%, canalicular 8%, penile 8% abdominal 6%, acetabular 4%, crural 2%. [5,6] (Figure 6). Typically is the motorcycle driver who is affected, at the moment of slipping abruptly to the fuel tank, which squeezes the testicle outside its normal location. [7]

Unilateral dislocation is more common but can occur bilaterally in approximately the 30% of the patients. [3] During the blunt trauma, the dislocation requires the rupture of the spermatic fascia in its 3 fixations points external, cremasteric and internal, leaving the tunica vaginalis and gubernaculum intact, if the gubernaculum is avulsed a rupture through the external and cremasteric layers is needed to get range of motion. [5,8] It is important to note that the final location also depends of the presence of some type abdomen wall abnormality such as laxity of the inguinal ring [9] or inguinal hernia. [10]

Clinical approach begins with an adequate clinical history and physical examination, Brockman´s sign, which is the presence of a well developed but empty loose scrotum associated to a traumatic injury raises suspicion. [7] Ultrasonography used to be the first imaging study in evaluation of trauma and other conditions as rupture, torsion or epididymal avulsion. Computed tomography is reserved when testicle is difficult to find.

Surgery is the indicated treatment to preserve testicular function, some authors has described the manual reduction as the initial treatment however the rate of successful is only 15% when the force is insufficient to rupture the spermatic cord tunics, the testis will return to its natural position. [11,12] In some cases when testicular rupture occurs, surgical exploration hast to be performed, the complication of let conservative management are secondary infection

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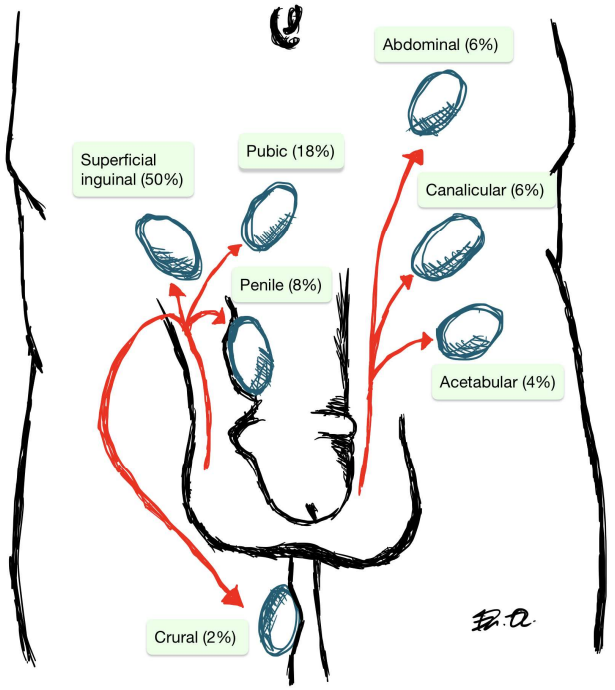

Figure 6. Possible sites and reported frequency of dislocated testis.

of the hematocele, necrosis or atrophy of the testis. Patients managed with early exploration compared with those managed conservatively had 9% and 45% orchiectomy rate respectively. [13]

Conclusion

Traumatic testicular dislocation is a rare complication of blunt testicular trauma, although not acutely life threatening carries the risk as fertility loss and endocrine dysfunction. During the first evaluation in emergency room in motorcycle accident is important to discard this kind of lesion. Diagnosis begins on suspicion and complete physical examination, the addition of doppler ultrasound confirm it. Surgical reduction and fixation are the treatments of choice with excellent prognosis.

Conflicts of interests

The authors declare that there was no conflict of interest during the study, and it was not funded by any organization

References

1. Carvalho NMN de, Marques ACX, Souza IT de, Soares VG, Nascimento FG do, Pinto LM, et al. Bilateral Traumatic Testicular Dislocation. Case Rep Urol. 2018;2018:1–5.
2. Zavras N, Siatelis A, Misiakos E, Bagias G, Papachristos V, Machairas A. Testicular dislocation after scrotal trauma: A case report and brief literature review. Urol Case Rep. 2014;2(3):101–4.
3. Tai Y-S, Chen Y-S, Tsai P-K, Wong W-J. Traumatic testicular dislocation: A rare occurrence of blunt scrotal injury. Urol Sci. 2014;25(4):158–60.
4. Bromberg W, Wong C, Kurek S, Salim A. Traumatic bilateral testicular dislocation. J Trauma. 2003;54(5):1009–11.
5. Schwartz SL, Faerber GJ. Dislocation of the testis as a delayed presentation of scrotal trauma. Urology. 1994;43(5):743–5.
6. Alyea EP: Dislocation of testis. Sur Gynecol Obstet 1929;49:600-616.
7. Gómez RG, Storme O, Catalán G, Marchetti P, Djordjevic M. Traumatic testicular dislocation. Int Urol Nephrol. 2014;46(10):1883–7.
8. Herbst RH, and Polkey HJ: Luxation testis traumatic and experimental study of mechanism. AM J Surg 34 18-33, 1936)
9. Lujan S, Budıa A, Bango V, Ramırez M, Delgado FJ, Jimenez JF. Dislocacion testicular postraumatica. Acta Urol Esp. 2006;30:409–11.
10. Lopez Alcina E, Martın JC, Fuster A, Perez J, Puertas M, Moreno J. Dislocacion testicular, aportacion de 2 nuevos casos y revision de la literatura. Acta Urol Esp. 2001;25:299–302.
11. Perera E, Bhatt S, Dogra VS. Traumatic ectopic dislocation of testis. J Clin Imaging Sci. 2011;1:17.
12. Edson M, Meek JM. Bilateral testicular dislocation with unilateral ruptura. J Urol. 1979;122:419–20.
13. Cass AS. Testicular trauma. J Urol. 1983;129(2):299–300.

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