

## Penile Fractures and their Association with Urethral Fractures

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### Abstract

The rupture of the corpora cavernosa with associated urethral fracture is an occasional urological Emergency that requires accurate diagnosis and, usually, urgent surgical repair in order to avoid functional sequelae, therefore it is important to know the form, symptoms and Clinical signs presented. The most common cause of the injury is violent sexual intercourse via the vagina or the anus. We present four clinical cases, two of which are isolated fractures of the corpora cavernosa and two associated with a fracture of the urethra. We describe the diagnosis, treatment and evolution of each of them

**Keywords:** Penis; Rupture; Urethra; Emergency

### Case Presentation

The rupture of the corpora cavernosa is an infrequent urological emergency, even more so when it is associated with urethral fracture. It requires an adequate diagnosis and urgent surgical repair, to avoid long-term sequelae.

We present 4 clinical cases of penile fracture, two of them is also an urethral lesion.

The first case is a 41-year-old man who went to the emergency room for having noticed during the sexual intercourse a "snap", with immediate detumescence and penile hematoma. Physical examination revealed penile hematoma and lateral deviation of the penis (Figure 1).

Bladder catheterization was performed without incidents. Given the clinical suspicion of a cavernous body fracture, it was decided to perform urgent surgical exploration.

After coronal incision in the foreskin and penile denudation, washing and drainage of the penile hematoma was performed, evidencing rupture of the right cavernous body in 1/3 ventral medium. It was repaired by suturing it, with loose Dexon® 2/0 stitches. The catheter was removed the day after the intervention, with spontaneous urination. The evolution was satisfactory. After one month the patient had a satisfactory erection and urination.

The second case is a 31-year-old man who went to the Emergency room for the same reason as the previous one, "clicking" during intercourse, detumescence and penile hematoma, also associated with difficulty urinating. The physical examination showed, like the previous one, penile hematoma and lateral deviation of the penis, also presenting difficulty for bladder catheterization.

Urgent surgery was performed, with hematoma washing and drainage, and right cavernous body suture (2 cm lesion), with Dexon® 2/0 loose stitches. During surgery, partial urethral injury was seen, which was sutured with Dexon 4/0 loose stitches.

Bladder catheterization was performed and maintained for 3 weeks. After the removal of the bladder catheter, the patient presented spontaneous urination without difficulty and satisfactory erections.

The third case corresponds to a 59-year-old man who went to the emergency room for the same reason as the previous ones, "clicking" during sexual intercourse, detumescence and penile hematoma, without urethral bleeding or voiding difficulty. The physical examination showed the same signs as in the first case, hematoma and penile deviation. Urgent surgical exploration was performed, with surgical repair of the left cavernous body, where 1 cm lesion was evident (Figure 2).

The evolution was satisfactory, and in the first control one month after the intervention the patient presented erections and good micturition comfort.

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Received Date: 26 Feb 2018

Accepted Date: 27 Mar 2018

Published Date: 29 Mar 2018

**Citation:** Pérez Martínez MA, Moratalla Charcos LM, Planelles Gomez J, Morera Martínez JF, Sánchez Sanchis M, Vidal Moreno JF. Penile Fractures and their Association with Urethral Fractures. *J Urol Forecast.* 2018; 1(1): 1005.

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Figure 1: Physical exploration.



Figure 2: Cavernous body rupture.



Figure 3: CUMS. Urethral rupture.

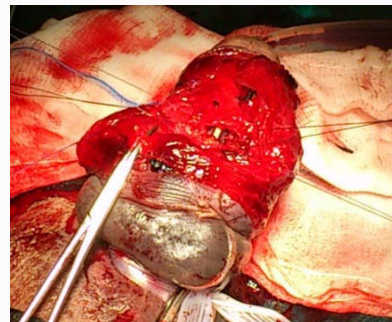


Figure 4: Cavernous body and urethra rupture.

The fourth clinical case is a 31-year-old male, who went to the emergency room for "snap", penile detumescence and urethral bleeding. The exploration presented, like the previous ones, penile hematoma and lateral deviation of the penis, evidencing also urethrorrhagia. CUMS was performed to confirm the clinical suspicion of urethral fracture and locate it, which showed extravasation of contrast in 1/3 of the penile urethra (Figure 3).

The emergency patient was intervened, with washing and drainage of hematoma, suture of the right cavernous body with Dexon® 3/0, and urethral repair with loose Dexon® 4/0 stitches (Figure 4).

A bladder catheter was placed during the surgery, which lasted for 3 weeks, afterwards presenting spontaneous voiding and satisfactory erections. A control CUMS was performed in which the urethral indemnity was corroborated.

## Discussion

The rupture of the corpora cavernosa is an infrequent disorder, which occurs mainly in the young adult, and which is caused by an antiphysiological curvature of the penis in erection [1].

In Western countries, the most common cause is a violent sexual relationship via vaginal or anal. The traumatism is accompanied by an audible click and the progressive formation of a penile hematoma that confers the appearance of eggplant [1]. The association of urethral fracture is rare, it occurs more frequently when there is bilateral rupture of the corpora cavernosa [2], although in our two cases it was only associated with a fracture of a single corpus cavernosum. In the review of the literature, we found few articles that presented cases of fractures of the corpora cavernosa complicated with urethral fractures, most of them presenting one or two cases [3]; the longest

series presents 20 cases of urethral fracture associated with a fracture of the corpus cavernosum, from a series of 110 patients with fractures of the corpora cavernosa [4]; followed by a series of 14 cases [5] and another of 10 cases [6] of urethral fractures associated with those of the corpus cavernosum. Only a small part of the cases show complete urethra fractures [2,5,7].

The diagnosis of rupture of the corpora cavernosa can be based solely on the clinical history and physical examination. The combination of clicking, hematoma and penile deviation is the typical clinical presentation [2,6,7]. In the case of a urethral fracture, the most common sign is urethral bleeding, as we can see in one of our cases and as reported in the literature [6,8].

In case of doubts in the diagnosis, cavernosography and ultrasound of cavernous bodies can be performed. To evaluate urethral injuries, urethrography is a valid tool [2,7].

The standard treatment is surgical. Urgent surgical exploration is recommended by the majority of authors, in order to avoid complications in both the short and long term, including infections, urethral stenosis, urethro-cavernous fistula and erectile dysfunction [7].

## Conclusion

In conclusion we can say that the fracture of the corpora cavernosa is an infrequent and rarer disorder even when it is associated with fracture of the urethra. It is important to know the form of presentation, symptoms and clinical signs, in order to make a diagnosis and appropriate treatments to avoid long-term sequelae. The main treatment consists of urgent surgical exploration, with evacuation of the hematoma and repair of the lesions.

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