CLINICAL EXPERIENCE IN THE MANAGEMENT OF PENILE FRACTURES AT HOSPITAL UNIVERSITARIO DEL VALLE (CALI – COLOMBIA)

Jaime Alejandro Restrepo, Carlos Gonzalo Estrada, Herney Andres García and Jorge Carbonell.


Summary.- OBJECTIVES: The main objective of this study was to describe the clinical characteristics of patients diagnosed with penile fracture in the Hospital Universitario del Valle (Cali, Colombia).

METHODS: A descriptive study, reviewing all the medical records of patients diagnosed with penile fracture from January 2001 to December 2008 at Hospital Universitario del Valle (HUV) in Cali. It took into account variables related to urological history, etiology, diagnosis, the surgical treatment and follow-up. Univariate analysis was performed with the statistical program STATA v. 10.1

RESULTS: There were 18 cases of penile fracture with an average age of 30 years. 11 patients (61%) had episodes related to intercourse. Patients presented swelling, pain and popping or cracking sound. The diagnosis was done by history and physical examination in 100%. Surgery was performed with a subcoronal incision in most of the patients. The right corpus cavernosum was frequently injured and corrected with absorbable suture. The patients had an average of 1.5 days of postoperative hospital stay.

CONCLUSIONS: Penile fracture is an entity the diagnosis of which is straightforward and can be reliable by history and physical examination. Surgical repair is the treatment of choice preventing complications, allowing the patient to return to satisfactory sexual life.

Keywords: Penile fracture. Corpora cavernosa. Urethra. Penis.

@Herney Andrés García
Cr 35 No 3ª – 38 Ap 301.
andresgarcia125@yahoo.com
Accepted for publication: June 20th, 2009
INTRODUCTION

Fracture of the penis (named incorrectly even though the man has no bony structure in the penis unlike other mammals) or fracture of the corpus cavernosum, is a rare urological emergency, however within the genital trauma is the most commonly described (1). Penile fracture is the rupture of the tunica albuginea of the corpora cavernosa due to blunt trauma (2). It is difficult to know the true incidence of this disease because there is not enough literature published and probably many patients do not consult because of its embarrassing situation (3). There are different mechanisms due to the fracture, that vary in frequency according to geographical area, owing intercourse trauma in the U.S., genital manipulation not associated to sexual desire in the mediterranean, masturbation in Japan and in musliman countries maneuvers to force the detumescence (4). The clinical presentation is typical: patients reported a popping or cracking sound associated with pain and detumescence followed by deformity of the penile shaft. (5). The diagnosis is clinical and the most accepted treatment is early surgery repairing the tunical defect. (6). The main objective of this study was to describe the clinical characteristics of patients diagnosed with penile fracture in the Hospital Universitario del Valle (Cali, Colombia).

MATERIALS AND METHODS

We performed a cross-sectional study. We reviewed the medical records of all male patients older than 14 years with (ICD 10) diagnosis of penile fracture from January 2001 to December 2008 treated in the Hospital Universitario del Valle (HUV) in Cali. It took into account variables such as age, date of consultation, history of genital disease, time between admission and surgery and the fracture mechanism (sexual intercourse, masturbation, etc). With regard to diagnosis took into account features such as pain, cracking or popping sound, detumescence, swelling, hematoma, urethral bleeding, urinary retention, if the diagnosis was made by physical evaluation or by ultrasound and if urethrography was performed before surgery. We evaluated the type of surgical incision, the presence of hematoma, the unilateral or bilateral injury of the corpora cavernosa, urethral compromise, site of the lesion, the location (distal or proximal), the type of suture used (absorbable, nonabsorbable), the suture caliber, type of closure (interrupted or not interrupted) and the time of postoperative hospitalization. Despite not being able to follow up all patients, variables like penile curvature or painful erection could be evaluated.

RESULTS

There were 17 patients (18 cases reported but one patient had twice diagnosed with penile fracture) between January 2001 and December 2008. The average age was 30 ± 8.1 years (Figure 1). It was frequent the diagnosis in the years 2004 and 2008 (Table I).

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CONCLUSIONES: La fractura de pene es una entidad cuyo diagnóstico es clínico, debe realizarse de forma precoz y la reparación quirúrgica es el tratamiento de elección para evitar complicaciones y permitir que el paciente retorne a su actividad sexual satisfactoria de manera temprana.

physical evaluation the most frequent symptoms were swelling, pain and cracking or popping sound (Table II). The diagnosis was performed with history and physical evaluation 100% of the cases and no patient underwent urethrography before surgical procedure. In regard of the surgical procedure a distal circumcising incision was done in 10 patients (55%) and a lateral incision in 8 cases (44.4%). Hematoma was found at exploration in 100% of cases. Injury of one of the corpus cavernosum was found in 16 cases (88.8%) and bilateral in 2 patients (11.1%), in those urethral injury was associated. 8 patients (44.4%) had injury of the right corpus cavernosum, 7 patients (38.8%) of the left and in 3 no injury was found. 1 patient (5.5%) had distal penile shaft injury, 5 patients (27.7%) had injury of the middle shaft and 10 patients (55.5%) had the injury in the proximal shaft. There were no data in 2 patients. In all the cases the repair was done with absorbable suture. In 10 patients (55.5%) the suture size was 3.0 and in 8 patients (44.4%) was 4.0. In 17 cases (94.4%) the repair was done with a not interrupted suture and 1 patient had closure with interrupted suture. The patients had 1.5 ± 0.78 average hospitalization day. 10 patients (55.5%) had 1 day of hospitalization, 7 patients (38.8%) 2 days and 1 patient (5.5%) 4 days of hospitalization. 14 cases had follow-up, 4 (28.5%) complaint of erection pain and 1 patient (7.1%) of penile curvature.


<table>
<thead>
<tr>
<th>YEAR</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
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<tbody>
<tr>
<td>2001</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2002</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>2003</td>
<td>2</td>
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</tr>
<tr>
<td>2004</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>2005</td>
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<td>0</td>
</tr>
<tr>
<td>2006</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>2007</td>
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</tr>
<tr>
<td>2008</td>
<td>4</td>
<td>22</td>
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</table>

TABLE II. CLINICAL PRESENTATION OF PATIENTS WITH PENILE FRACTURE IN JANUARY 2001 TO DECEMBER 2008 AT HOSPITAL UNIVERSITARIO DEL VALLE. (N=18).

<table>
<thead>
<tr>
<th>FEATURES</th>
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</thead>
<tbody>
<tr>
<td>PAIN</td>
<td>12</td>
<td>66.6</td>
</tr>
<tr>
<td>CRACKING OR POPING SOUND</td>
<td>11</td>
<td>61.1</td>
</tr>
<tr>
<td>DETUMESCENCE</td>
<td>5</td>
<td>27.7</td>
</tr>
<tr>
<td>SWELLING</td>
<td>15</td>
<td>83.3</td>
</tr>
<tr>
<td>HEMATOMA</td>
<td>12</td>
<td>44.4</td>
</tr>
<tr>
<td>URETHRAL BLEEDING</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>URINARY RETENTION</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CONTINUITY SOLUTION</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
previously to the physical evaluation. Fracture occurs when blunt trauma is done to the erect penis (8).

It’s secondary to a sudden and exaggerated curvature of the erect penis, with subsequent rupture of one or both corpus cavernosum that may be accompanied with urethral injury (0 - 38%) (2, 9). The mechanisms of trauma reported in this investigation are similar to those described in literature, mainly intercourse (4, 10, 11), detumescence maneuvers, forced handling of the penis, trauma to the erected penis, unconscious nocturnal penile manipulation, fall with the erect penis or direct trauma to the penis (3, 9, 12).

The symptoms reported were not different from the classic symptoms of a fractured penis: the hearing of a poppinng or cracking sound followed of detumescence, swelling and a purplish colored penis giving it the appearance of an eggplant (1, 6, 13, 14).

The diagnosis is based on an adequate medical history and physical evaluation, and if there is doubt, it can be used other strategies such as doppler ultrasound of the penis that might show the existence of a hematoma below the fascia, as well as disruption of the albuginea (15). Other studies are cavernosography that has a high percentage of false negatives (15%) and complications such as allergy, infection and fibrosis (11) and magnetic resonance imaging (MRI) which is expensive and not available on most emergency rooms (9). The results are consistent with the reported literature because in neither case was imaging required. The urethrography is an invasive study that should be performed only at suspected urethral trauma, however, it has up to 14% false negatives; no patient in this study were previously submitted, but during the surgical procedure the urethra was explored and when injury found repair was done inmediately.

The conservative management of the fractures, used mostly in the sixties as a gold standard, described mainly for small fracture without urethral compromise is no more done because it’s high incidence of complications (10 - 80%) (painful erection, pulsating mass, infection, partial erection) (16-18). The treatment of choice since the seventies is surgical exploration with closure of the tunical defect(6, 9, 13, 14). In our institution all patients with suspected fracture of the penis underwent surgical exploration, the type of incision (subcoronal or lateral) depended on the site where the fracture was suspected.

There are different approaches to expose the 3 compartments of the penis (infrapubic, inguinoescrotal and penile), however the most used is the penil with longitudinal incisions or subcoronal incision. The most commonly used and accepted is the subcoronal, although there are no differences (9).

Usually the injury reported in literature is in the proximal portion of the shaft (91%), and the repair it’s done with absorbable suture 3/0 to 4/0 (9). In the study there was not predominance on the site of injury, showing a slight tendency toward the right side proximal portion of the shaft (9). Urethral injury may be present in up to 10% - 38% of the cases (9). In this study, all patients that had bilateral injury were associated with urethral injury (11%), reflecting the magnitude of the trauma, but urethral bleeding was found only in one patient.

Although the follow-up was not complete (14 cases), it showed a low incidence of penile curvature and a negligible percentage of painful erections.

It’s clear that descriptive studies are most likely to present different types of bias, but our work shows the experience of 8 years in Hospital Universitario del Valle, a reference center, in the city of Cali were people without social security, from southwest of Colombia are treated, and this information it’s usefull as an exploratory approach to generate hypotheses for further studies, given the low incidence of this entity.

**CONCLUSION**

Penile fracture is an entity which diagnosis is straightforward and can be reliably by history and physical examination, surgical repair is the treatment of choice preventing complications, allowing the patient to return to satisfactory sexual.

**REFERENCES AND RECOMMENDED READINGS**

(*of special interest, **of outstanding interest)


