CLINICAL DIAGNOSIS OF PENILE FRACTURE

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ABSTRACT

Objective: To determine the accuracy of clinical diagnosis in penile fracture.

Material and Methods: This descriptive study was conducted in the Surgical Unit, Hayatabad Medical Complex, Peshawar from January 2007 to December 2009. All patients presenting with blunt penile trauma were included in the study. Patients’ age, activity leading to injury, symptoms and signs were recorded. Diagnosis was made clinically and confirmed with operative findings.

Results: Total number of 39 patients was included. Age range was 21 to 49 years with a mean age of 28 years ± 4SD. The commonest cause of fracture was sexual trauma in 41.03% of the cases. Clinical diagnosis as penile fracture was correct in 100% of cases, while in 97.43%, the side of rupture i.e. right or left, was also correctly determined pre-operatively. The site of fracture i.e. proximal, middle and distal penile was correctly diagnosed in 79.48% of the patient’s pre-operatively. Complete recovery took place in all the patients following immediate surgical repair. On six month followup only 5 patients complained of mild pain during erection and 3 had slight curvature of the penis, which did not hamper sexual function.

Conclusion: Clinical diagnosis of penile fracture is easy and accurate. No further investigations are required.

Key Words: Fracture, Penile, Corpora cavernosa, Clinical, diagnosis.

INTRODUCTION

Penile fracture is a rupture of tunica albugenia of one or both corpora cavernosa following injury to an erect penis. This typically occurs when the engorged corpora cavernosa are forced to buckle under pressure by blunt trauma. The first case of penile fracture was reported in 1925. The condition was initially regarded as a relatively rare entity, but is increasingly reported as a genitourinary trauma. A review by one investigator identified 1331 cases in 183 publications between January 1935 and July 2001. Interestingly, more than half of these cases are reported from Muslim countries. In the overwhelming majority of cases the etiology is sexual, with coitus and masturbation being the most common causes. Some authors have described female superior position being a frequent cause of sustaining penile fracture, possibly due to abnormal angulations of the erect penis when pushed against the female perineum or symphysis pubis.

Diagnosis of penile fracture is mainly clinical and treatment is immediate surgical repair to avoid complications. Several investigations are used to diagnose the site and extent of injury, but these should not replace clinical assessment or delay exploration. If there is haematuria, voiding difficulty or urinalysis reveals blood, retrograde urethrogram should be performed. Cavernosography is a useful test in doubtful cases. It is invasive with low sensitivity and there is a risk of contrast reaction, post procedure priapism and corporal fibrosis. Penile ultrasound is a readily available, non invasive investigation but is highly operator dependent with low sensitivity. Magnetic Resonance Imaging (MRI) is a useful investigation that pinpoints the site and extent of tunica rupture but is expensive and not readily available, especially in the emergency setup. The aim of this study was to evaluate the accuracy of clinical diagnosis in blunt penile fracture so that unnecessary delay in surgical repair is avoided, preventing long term complications.

MATERIAL AND METHODS

This descriptive study was conducted in the Surgical Unit, Hayatabad Medical Complex, Peshawar from January 2007 to December 2009. All the patients presenting with blunt penile trauma were included in the study. Patients not willing to participate in the study or treated elsewhere were excluded from the study. Diagnosis was made based on history and clinical examination and confirmed with operative findings. No investigation was done for diagnosis. Surgical repair was performed within 24 hours of presentation using sub coronal circumferential penile incision and de gloving the penis. Repair was done with vicryl 3/0.

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suture under local anaesthesia. Patients were followed up for six months.

RESULTS

The total number of patients was 39 with an age range of 21-49 years (mean 28 years ± 4 SD). Sexual intercourse was commonest cause of fracture (41.03%) and rest of causes are shown in Table 1. The number of married patients was 28, and unmarried 9. Clinical diagnosis as penile fracture was accurate in 100% of cases. Side of fracture i.e. right or left was clinically diagnosed accurately in 97.43% while site of fracture i.e. proximal, middle and distal penile fracture in 79.48% of cases shown in Table 2. Only 3 patients developed wound infection post operatively which was treated conservatively. On six months follow up, 5 patients complained of mild pain and 2 had slight curvature of penis during erection which did not hamper sexual activity.

<table>
<thead>
<tr>
<th>Causes</th>
<th>No. and percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual intercourse</td>
<td>16 (41.03)</td>
</tr>
<tr>
<td>Masturbation</td>
<td>10 (25.64)</td>
</tr>
<tr>
<td>Manipulation</td>
<td>7 (18.0)</td>
</tr>
<tr>
<td>During sleep</td>
<td>4 (10.25)</td>
</tr>
<tr>
<td>Fall on erect penis</td>
<td>2 (5.12)</td>
</tr>
<tr>
<td>Total</td>
<td>39 (100)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Causes</th>
<th>No. and percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical diagnosis</td>
<td>25 14 23 3 13</td>
</tr>
<tr>
<td>Operative diagnosis</td>
<td>26 13 27 2 10</td>
</tr>
<tr>
<td>Total percent</td>
<td>97.43% 79.48%</td>
</tr>
<tr>
<td>P value</td>
<td>0.812 0.634</td>
</tr>
</tbody>
</table>

Table 1: Causes of Penile Fracture

Due to these typical presentations, the diagnosis is mainly clinical. Radiological investigations are expensive, time consuming and rely on the experience of the radiologist. Most of the studies on this subject show a limited role of investigations, apart from history and clinical examination to diagnose penile fracture. Preoperative caverno-sography, ultrasound and MRI is recommended to diagnose and determine the site of fracture i.e. proximal, middle or distal shaft. Retrograde urethrogram is necessary for suspected associated urethral injury. Caverno-sography is an invasive procedure with a risk of contrast reaction and post procedural priapism. MRI is expensive and less readily available. Likewise ultrasound is less sensitive and technically difficult in the presence of haematoma. Secondly all these investigations lead to unnecessary delay in the immediate repair of fracture which is required for an excellent outcome. Leandro et al presented 56 cases and had performed ultrasound in 2 cases; MRI in 1 case, retrograde urethrogram in 7 cases. Ahmad Abolyosr had used MRI in all 14 cases; clinical and no further investigations are required. This shows that clinical diagnosis of penile fracture is easy and accurate. MRI and caverno-sography are used for determination of side and site of fracture, which is not relevant when a circumferential penile incision is used and de gloving the penis, which exposes all the sides and sites of penile shaft. All the patients were explored within 24 hours of admission. Two patients had wound infection in the immediate post operative period which was treated conservatively. Long term results were satisfactory with normal sexual activity. Only 5 patients complained of pain while 3 had slight curvature of penis during erection.

CONCLUSION

Diagnosis of penile fracture is essentially clinical and no further investigations are required.

REFERENCES