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Research Article

ERECTILE DYSFUNCTION ASCRIBABLE TO PENILE FRACTURE – A SINGLE INSTITUTION EXPERIENCE

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A R T I C L E I N F O

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A B S T R A C T

Introduction-Penile fracture is one of the important urological complications due to rupture of tunica albugenia of corpus cavernosum that requires emergency surgical exploration.
Materials and methods- We aimed to review the data of five patients with penile fracture those presented to our hospital from January 2022 to December 2022. In our patients age, clinical findings, etiology, and site of fracture were analyzed using USG Doppler. Patients were followed up using IIEF-5 questionnaire and penile color Doppler was done in patients with low score in IIEF-5.
Results- The mean age of the patients was 44 years.All patients had penile fracture after sexual intercourse. 60% patients had penile ecchymosis, 100% had penile swelling(100%), and 60% had sudden detumescence . The defect was proximal in all patients (3 on right side and 2 on left side). All patients were surgically explored in the emergency O.T. One out of 5 patients had erectile dysfunction as per IIEF-5 Score.
Conclusion- All penile fracture patients should be surgically explored and repaired as soon as possible to prevent chances of erectile dysfunction.

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INTRODUCTION

Penile fracture (PF) is one of the important urological emergencies caused by strong manipulation, vigorous sexual intercourse, masturbation or any mechanical trauma that causes an erect penis to bend forcibly, causing a tear in the tunica albuginea of the corpus cavernosum with subsequent subcutaneous hematoma with or without rupture of the corpus spongiosum and the urethra. [1]

Many patients due to embarrassment do not seek medical attention leading to masking of the true incidence.Patient usually gives history of hearing a cracking noise during sexual intercourse, rapidly followed by pain, detumescence, and a substantial subcutaneous hematoma leading to an 'eggplant deformity' [2.] Immediate surgical exploration is the current standard protocol involving degloving of the penis, hematoma evacuation, and suturing of rent in the tunica albuginea with nonabsorbable suture [3]. In this study, we aimed to do analysis of clinical presentation, diagnosis, management and incidence of erection dysfunction in five cases of penile fracture that presented to our emergency department.

METHOD

A retrospective observational study was conducted from January 2022 to December 2022 at the department of urology, Madurai medical college, Madurai.

We studied the relation of erectile dysfunction with penile fracture of 5 patients admitted and operated in our department. Penile fracture was diagnosed on the basis of history ,clinical examination and confirmed with ultrasound Doppler studies.

Surgical exploration and repair of all patients was done after obtaining informed written consent. Intravenous antibiotic was given preoperatively and postoperatively for 1 day. Sub coronal circumferential incision was made to deglove the penis. Hematoma was evacuated and exact location of fracture identified. Repair of the defect was done with 3-0 inverted absorbable sutures. After repair an artificial erection with saline injection was performed to check any leak. Patients were followed up using IIEF-5 questionnaire and penile color Doppler was done in patients with low score in IIEF-5.

RESULTS

5 cases of penile fracture were included in our study. The mean age of the patients was 44 years.(Table1) All patients had penile fracture after sexual intercourse.

On examination 3 patients had penile ecchymosis(60%) and pain , all 5 patients had penile swelling(100%), 3 patients had sudden detumescence (60%).(Table2) 3 patients had defect of tunical albugenia(60%) on the right side and 2 patients had on left side (40%). It was proximal in all the patients. (Table 3)
1 patient had erectile dysfunction on the basis of history and IIEF-5 questionnaire done at 6 months follow up visit. Average score of 5 patients was 21.2 Table 4
The IIEF-5 Questionnaire (SHIM)

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Over the past 6 months

1. How do you rate your confidence that you could get and keep an erection?	Very low 1	Low 2	Moderate 3	High 4	Very high 5
2. When you had erections with sexual stimulation, how often were your erections hard enough for penetration?	Almost never or never 1	A few times(much less than half the time) 2	Sometimes(about half the time) 3	Most times (Much more than half the time) 4	Almost always or always 5
3. During sexual intercourse, how often were you able to maintain your erection after you had penetrated your partner?	Almost never or never 1	A few times (much less than half the time) 2	Sometimes(about half the time) 3	Most times (Much more than half the time) 4	Almost always or always 5
4.During sexual intercourse, how difficult was it to maintain your erection to completeion of intercourse?	Almost never or never1	A few times (much less than half the time) 2	Sometimes (about half the time) 3	Most times (Much more than half the time) 4	Almost always or always 5
5.When you attemoted sexual intercourse, how often was it satisfactory for you?	Almost never or never 1	A few times(much less than half the time) 2	Sometimes(about half the time) 3	Most times (Much more than half the time) 4	Almost always or always 5

1-7 Severe ED
8-11 Moderate ED
12-16 Mild- Moderate ED
17-21 Mild ED
22-25 No ED

Table 1

Age Group(years)	No. of patients(%)
18-30	0
30-40	1
40-50	2
>50	2

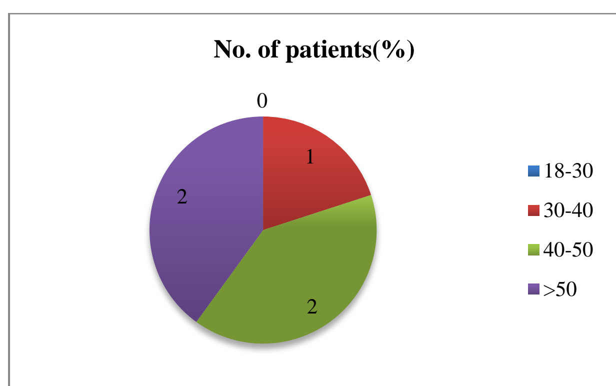


Figure 1

Table 2

Clinical Examination	Number of Patients(%)
Penile ecchymosis	3(60%)
Penile swelling	5 (100%)
Sudden detumescence	3(60%)

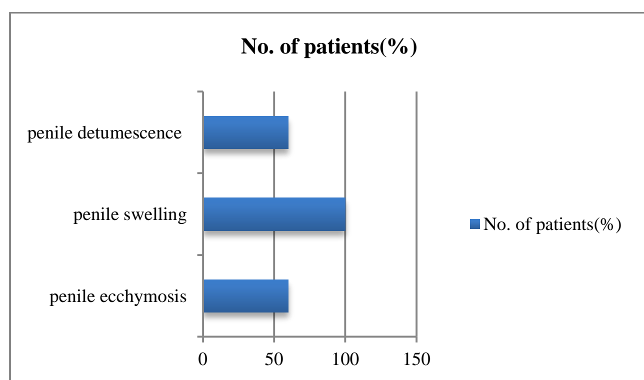


Figure 2

Table 3

Site of fracture	Number of Patients (%)
Right side	3(60%)
Left side	2(40%)
Proximal	5(100%)

Table 4

Patient with erectile dysfunction	IIEF-5 questionnaire Score
Patient 1	13
Patient 2	24
Patient 3	22
Patient 4	23
Patient 5	24
Average score-	21.2

DISCUSSION

The thickness of tunica albugenia decreases to 0.25-0.05mm from 2mm in an erect state and hence it ruptures more easily if exposed to trauma .[1] For the corpus cavernosum to rupture the average arterial pressure must be above 1500 mmHg .[4]

Sudden forced flexion, forcible coitus and masturbation are the usual causes of the penile fracture. A study by Amer et al, the most common cause of penile fracture was sexual intercourse followed by forced flexion and masturbation.[5]

In our study all patients had penile fracture during vigorous coitus. In studies by Kumar et al and Mahapatra et al penile fracture was associated with uretheral injury in 10-to15 % of the patients but in our study none of the patient had urethral injury. [6,7]

The ventro-lateral aspect of the proximal part of the penis is the most common site for penile fracture. In our study 3 patients had fracture on right and 2 on the left with all on the proximal shaft of the patient.

In our study we explored the patients surgically within 24 hours of presentation. In the literature sexual dysfunction ranged from 0 to 12 % and can result from penile curvature, erectile dysfunction or painful intercourse. Erectile dysfunction can be organic or pschyological.[8]

Follow up of the patients was done after 6 months and to assess erectile dysfunction IIEF-5 questionnaire was used. 1 patient as per IIEF-5 questionnaire had erectile dysfunction. He was further subjected to penile Doppler study with intra-cavernosal injection of the vasoactive drug (Papaverine 40 mg). Doppler report was normal. He is kept on follow up, may need further evaluation and management.

GOVERNMENT RAJAJI HOSPITAL, MADURAI
DEPARTMENT OF RADIODIAGNOSIS

PENILE DOPPLER STUDY

Patient name: Age/Sex: 52/M Date: 22.02.2023

IP No: Ward: 202 SSB. Urology I

PRE PAPAVARINE INJECTION DOPPLER STUDY:

- Tunica albugenia appears echogenic and intact.
- **Few tiny calcific foci seen in both corpora cavernosa, more on right side.**
- Right cavernosal artery measures 0.4mm and left cavernosal artery measures 0.4mm.

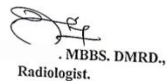
POST PAPAVARINE INJECTION DOPPLER STUDY:

- Post papaverine injection reveals engorgement of both corpora cavernosa.
- Post injection right cavernosal artery measures 0.78mm
- Left cavernosal artery measures 0.73mm
- Serial peak systolic velocities of the both cavernosal arteries are recorded.

	Diameter Pre-injection	Diameter Post-injection	PSV Pre-injection	PSV Post-injection
Right cavernosal artery	0.4mm	0.78mm	8cm/s	61cm/s
Left cavernosal artery	0.4mm	0.73mm	9cm/s	74cm/s

IMPRESSION:

Penile Doppler study reveals, adequate arterial response following intra cavernosal injection of papaverine.



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References

1. Zargooshi J. Sexual function and tunica albuginea wound healing following penile fracture: An 18-year follow-up study of 352 patients from Kermanshah, Iran. The journal of sexual medicine. 2009 Apr;6(4):1141-50.
2. Amer T, Wilson R, Chlosta P, AlBuheissi S, Qazi H, Fraser M, Aboumarzouk OM. Penile fracture: a meta-analysis. Urologia internationalis. 2016;96(3):315-29.
3. Al-Hajjaj M, Aljool AA, Al Husein H. Penile fracture: An analysis of 9 cases in a tertiary hospital. Annals of Medicine and Surgery. 2022 Jul 1;79:104028.
4. Yilmazel FK, Sam E, Altay MS, Cinislioglu AE, Sam E, Delice O, Karabulut I. Surgical results in penile fracture: Our single center experience. The American Journal of Emergency Medicine. 2021 Jun 1;44:184-6.
5. Amer T, Wilson R, Chlosta P, AlBuheissi S, Qazi H, Fraser M, Aboumarzouk OM. Penile fracture: a meta-analysis. Urologia internationalis. 2016;96(3):315-29.
6. Kumar L, Tiwari R, Arya MC, Sandhu A, Vasudeo V, Baid M. A tertiary center experience of fracture penis: Early surgical management with a clinical diagnosis. Urological Science. 2018 Nov 1;29(6):298.
7. Raj Kumar Sinha M, Rajendra Prasad R, Swetank M, Dilip Kumar P. Urethrocutaneous fistula following fracture penis.
8. Koifman L, Cavalcanti AG, Manes CH, R Filho D, Favorito LA. Penile fracture: experience in 56 cases. International braz j urol. 2003;29:35-9.

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