Scientific Research Publishing

Open Journal of Urology, 2026, 16(11), 517-524
https://www.scirp.org/journal/oju
ISSN Online: 2160-5629
ISSN Print: 2160-5440

Circumstances Associated with Penile Fractures in the Urology Department of the Cocody University Hospital

Clément Cyrille Vodi[1*], Gnakouri Alain Pacôme Gnabro[2], Seydou Nourou Tall[3], Djeckett Kévin Marcel Adams Konan[2], Elysée James Vital Amangoua[2], Angoran Hijin Dekou[2]

[1]Urology Department, l'Établissement Public Hospitalier Régional de San Pedro, San-Pédro, Côte d'Ivoire
[2]Urology Department, Cocody University Hospital, Abidjan, Côte d'Ivoire
[3]Digestive Surgery Department, Bouaké University Hospital, Bouaké, Côte d'Ivoire
Email: *clementvodi@gmail.com

How to cite this paper: Vodi, C.C., Gnabro, G.A.P., Tall, S.N., Konan, D.K.M.A., Amangoua, E.J.V. and Dekou, A.H. (2026) Circumstances Associated with Penile Fractures in the Urology Department of the Cocody University Hospital. *Open Journal of Urology*, **16**, 517-524.
https://doi.org/10.4236/oju.2026.1611052

Received: September 15, 2026
Accepted: November 8, 2026
Published: November 11, 2026

Copyright © 2026 by author(s) and Scientific Research Publishing Inc.
This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).
http://creativecommons.org/licenses/by/4.0/

Open Access

Abstract

Introduction: The aim of our study is to describe the contributing factors to penile fracture in the urology department of the Cocody University Hospital. **Patients and Method:** This is a retrospective cross-sectional descriptive study in the urology department of the Cocody University Hospital from July 2021 to June 2024. It included 21 patients who presented with a penile fracture. **Results:** The mean age of the patients was 35.35 years [28 - 50 years]. In 18/21 cases, the fracture occurred during a misstep during intercourse, and in 3/21 cases during manipulation of the erect penis. During intercourse, the fracture occurred in the doggy-style position in 11/18 cases. Alcohol consumption before intercourse was observed in 13/18 cases. A urethral injury was observed in 4/21 cases. The right corpus cavernosum was involved in 14/21. Treatment consisted of performing an albuginea suture in all patients, combined with a urethroplasty in 4/21. **Conclusion:** Penile fracture most often occurs during an awkward moment during intercourse. The doggy-style position and alcohol consumption before sexual intercourse increase the risk of penile fracture during intercourse.

Keywords

Penile Fracture, Intercourse, Doggy Style Position, Alcohol

1. Introduction

A penile fracture (PF) is a sudden, traumatic rupture of the tunica albuginea of the corpora cavernosa occurring in an erect penis [1]. It most often occurs during

sexual intercourse, but it can also occur during masturbation or when manipulating the penis to conceal an erection [2]. When it occurs, the patient experiences a cracking sound, pain, and detumescence of the penis. This is followed by significant swelling and hematoma, resulting in an eggplant-like deformity [3]. Its etiopathogenesis is related to the resistance of the tunica albuginea surrounding the corpora cavernosa. It occurs when the penis is subjected to sudden axial or transverse stress. This causes an increase in intracavernous pressure that exceeds the tensile strength of the tunica albuginea [4]. The occurrence of a penile fracture is thought to involve several factors. The aim of our work is to study the factors that promote the occurrence of PF in the urology department of the Cocody University Hospital.

2. Patients and Method

This is a descriptive, retrospective, cross-sectional study conducted at the Urology Department of the Cocody University Hospital over a four-year period, from July 2021 to June 2024. During this period, 21 of the 23 identified cases of patients admitted for penile fracture (PF) were included in the study; only complete medical records of patients treated in the department were selected. The variables analyzed included socio-demographic data, factors contributing to the occurrence of PF, and the treatment provided.

3. Results

We identified 21 patients over 4 years, or 5.25 cases per year. The average age of patients was 35.35 years [28 - 50 years].

In 18 of the 21 cases, penile fracture occurred following a coital mishap, and in 3 out of 21 cases, it occurred during manipulation of the penis to conceal an erection. PF occurred in the doggy-style position in 11 out of 18 cases, in the missionary position in 5 out of 18 cases, and in andromache position in 2 out of 18 cases. Questioning revealed that, prior to sexual intercourse, 13 of the 18 patients had consumed large amounts of alcohol, and 4 of the 18 had taken sildenafil at doses ranging from 100 to 200 mg.

The triad of crepitus, pain, and detumescence was observed in all patients, and they also all presented with an eggplant-like deformity (**Figure 1**). Scrotal edema (**Figure 2**) was observed in 6/21 patients, and urethrorrhagia in 4/21 patients. The diagnosis was purely clinical in all patients.

The mean consultation time was 13.81 h [1 - 72 h]. The surgical approach was a circular incision 1 cm from the balanopreputial groove with degloving of the penis in all patients (**Figure 3**). During surgery, the right side was involved in 14/21 cases. A urethral rupture was observed in 4/21 patients. The lesion was located distally in the corpus cavernosum in 13/21 patients, in the middle third in 2/21 patients, and proximally in 6/21 patients. All patients with a urethral rupture underwent urethroplasty with 3-0 absorbable suture. Tunica albuginea was repaired with 2-0 absorbable suture in 8/21 patients and 3-0 in 5/21 patients. Non-

absorbable suture size 2/0 was used in 3/21 patients and 3/0 in 5/21 patients. At the 6-month follow-up, the 10 patients seen in consultation showed the following outcomes: 2 out of 10 developed slight penile curvature which caused neither pain nor erectile issues during sexual intercourse while another 2 out of 10 experienced erectile dysfunction, classified as mild according to the IIEF-5 score.



Figure 1. Penile fracture with eggplant-like deformity.

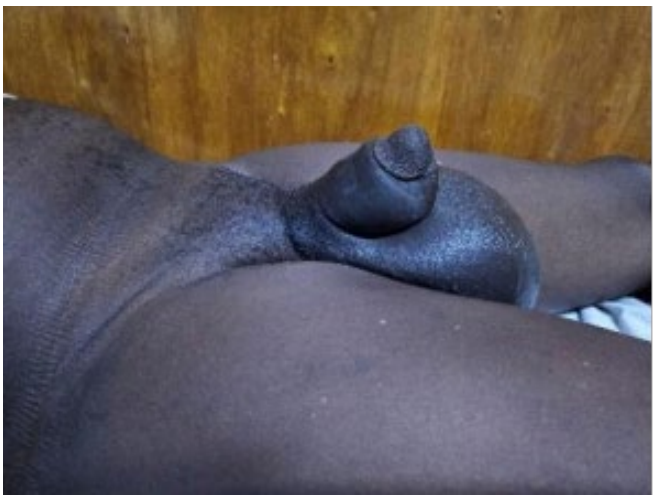


Figure 2. Penile fracture with scrotal edema.



Figure 3. Degloving of the penis showing a fracture of the middle third of the left corpus cavernosum.

4. Discussion

PF remains a rare but serious urological emergency, requiring prompt management to avoid major functional complications such as erectile dysfunction, permanent penile deformity, or urethral stricture [5]. Our study, conducted in the urology department of the Cocody University Hospital, allowed us to identify several factors contributing to the occurrence of PF, particularly traumatic circumstances related to sexual intercourse, with a predominance of certain risky sexual positions. We observed a penile fracture rate of 5.25 cases per year. The rate of penile fracture varies according to geographical area. The rates in different series in sub-Saharan Africa fall within the same range. Ofori in Ghana found 6.8 cases per year [6]; while Owon'Abessolo in Cameroon found 3.83 cases per year [7] and Molla in Ethiopia 3 cases per year [8]. The frequency is much lower in the Western countries, where Reichenbach observed 6.3 cases/year in a multicenter study (3 centers), as did Bozzini, who found 7.6 cases/year in a multicenter study involving 7 centers [9] [10]. In India, Mir observed a frequency of 12 cases/year [11]. The highest frequencies are observed in Morocco, where Alafifi and Dibingue observed 35.66 and 34.2 cases/year, respectively [12] [13].

The average age of our patients was 35.35 years. PF most often occurs in young men who engage in vigorous sexual activity and frequently seek to perform feats of strength. This young age has been observed by most authors [6] [8] [9] [12].

The average consultation delay observed in our study was 13.81 h [1 - 72 h]. Consultation delays vary from one study to another; Ofori [6] in Ghana observed a consultation delay of 29 h [3 h - 10 d], Owon'Abessolo [7] in Cameroon observed a delay of 5 h [1 - 72 h] and Alafifi [12] in Morocco observed that 80% of patients consulted within 24 h.

The majority of fractures observed in our series (18/21) occurred during a misstep during intercourse, which confirms that sexual intercourse remains the main cause of penile fractures, as observed by several authors [2] [14]-[16]. Some studies in the West report that up to 94% of cases of PF occur during sexual activity, while in the Middle East, 76% of cases are associated with self-manipulation (e.g., taqaandan, a popular Middle Eastern practice that involves bending the longitudinal axis of the penis during erection to achieve detumescence) or masturbation [17].

The so-called "doggy style" position appears to be the riskiest, found in 61% of cases in our series, which is consistent with other studies [3] [6] [15]. This position exposes the penis to greater mechanical stress, increasing the risk of rupture of the tunica albuginea; the penis then strikes the buttocks or coccyx. Some authors have identified other sexual positions that also promote PF, such as the "missionary" position [11] [18] and the "Andromache" position [17] [19] [20]. Syarif *et al.* concluded after a literature review that PF most often occurs in sexual positions where the man is dominant (doggy style and missionary) [2].

Furthermore, we observed alcohol consumption in 72% of patients before sex-

ual intercourse, as well as sildenafil use in 22%. These factors could contribute to decreased motor control or increased penile rigidity, thus increasing the risk of injury [21]. Alcohol, due to its effects on alertness and coordination, is often cited as a risk factor in other studies [22] [23].

Clinically, the classic triad of PF (cracking sound, pain, detumescence) was consistently observed, confirming its importance in clinical diagnosis [14] [15] [24]. The eggplant-like deformity remains a pathognomonic sign, facilitating immediate recognition of the condition. Scrotal edema and urethrorrhagia, present in 28% and 19% of patients respectively, reflect the variable severity of associated lesions. We did not need to perform any paraclinical examinations to establish the diagnosis because the clinical presentation was suggestive. In cases of doubt, an ultrasound or MRI of the penis can be performed, which is the best way to establish the diagnosis [25] [26]. These examinations allow for precise localization of the lesion and guide surgical treatment through an elective approach. All our patients underwent surgical intervention, a treatment that currently constitutes the gold standard [27] [28]. The procedure involved making a circular incision below the balanopreputial groove with degloving of the penis. This allowed for complete exploration and adequate repair of the lesions. In our study, the lesion was predominantly located in the right corpora cavernosa and distally. Several authors have reported predominantly involvement of the right corpora cavernosa without any explanation [6] [11] [12] [29]. Urethral rupture, present in 19% of patients, was systematically repaired, which is essential for preserving urination [5]. According to Faridi *et al.* [30], urethral injury, which is rare, is most often associated with bilateral rupture of the corpora cavernosa; this was not observed in our study. We did not perform an elective approach, which has the advantage of allowing for an earlier resumption of sexual intercourse compared to degloving [9].

The 6-month follow-up was marked by the occurrence of mild problems in 4 out of 10 patients seen in consultation. Our results are difficult to interpret given the high number of patients lost to follow-up. Some authors claim that complications such as erectile dysfunction, penile curvature, and pain during intercourse occur when treatment is delayed (>24 hours) [6] [8] [10] [13]. Alafifi [12], on the other hand, places more emphasis on the treatment technique itself, which he believes is responsible for these complications. However, this assertion is not shared by other authors who have observed that the delay in treatment does not influence the occurrence of short- and medium-term complications [9] [27] [31].

5. Conclusion

At the Cocody University Hospital, PF are primarily linked to sexual trauma, with contributing factors, such as the doggy-style position, alcohol consumption, and the use of vasoactive medications. Prompt surgical intervention improves the functional prognosis. These findings highlight the importance of educating patients about the risks associated with certain sexual practices and the consumption of alcohol or medication before sexual intercourse.

Conflicts of Interest

We declare no conflict of interest in this study.

References

[1] Tijani, K.H., Ogo, C.N., Ojewola, R.W. and Akanmu, N.O. (2012) Increase in Fracture of the Penis in South-West Nigeria. *Arab Journal of Urology*, **10**, 440-444. https://doi.org/10.1016/j.aju.2012.07.004

[2] Syarif, S., Azis, A., Natsir, A.S. and Putra, M.Z.D.A. (2024) What Is the Most Dangerous Sexual Position That Caused the Penile Fracture? A Systematic Review and Meta-Analysis. *International braz j urol*, **50**, 28-36. https://doi.org/10.1590/s1677-5538.ibju.2023.0419

[3] Barros, R., Schulze, L., Ornellas, A.A., Koifman, L. and Favorito, L.A. (2017) Relationship between Sexual Position and Severity of Penile Fracture. *International Journal of Impotence Research*, **29**, 207-209. https://doi.org/10.1038/ijir.2017.24

[4] Penson, D.F., Seftel, A.D., Krane, R.J., Frohrib, D. and Goldstein, I. (1992) The Hemodynamic Pathophysiology of Impotence Following Blunt Trauma to the Erect Penis. *Journal of Urology*, **148**, 1171-1180. https://doi.org/10.1016/s0022-5347(17)36852-0

[5] Ibrahiem, E.H.I., El-Tholoth, H.S., Mohsen, T., Hekal, I.A. and El-Assmy, A. (2010) Penile Fracture: Long-Term Outcome of Immediate Surgical Intervention. *Urology*, **75**, 108-111. https://doi.org/10.1016/j.urology.2009.08.057

[6] Ofori, E.O., Adanu, K.K., Akpakli, E.A. and Mensah, J.E. (2025) Penile Fracture: Our Experience in Korle Bu Teaching Hospital in Accra, Ghana. *Journal of West African College of Surgeons*, **15**, 400-406. https://doi.org/10.4103/jwas.jwas_73_24

[7] Owon'Abessolo, P.F., Cedrick, F.J., Barthelemy, M.M.J., Stephane, N.M.A., Cecile, E.P., Ivon, B.A., *et al.* (2023) Retrospective and Prospective Study on Injuries during Coital Accidents at the Central Hospital of Yaounnde: A Study of 23 Cases. *Open Journal of Urology*, **13**, 55-63. https://doi.org/10.4236/oju.2023.132007

[8] Molla, Y.D., Erku, B.A., Kassa, S.A., Alemu, H.T. and Mekonnen, D.C. (2023) Penile Fracture: A Case Series of 18 Patients. *Annals of Medicine & Surgery*, **85**, 6186-6191. https://doi.org/10.1097/ms9.0000000000001396

[9] Reichenbach, A., Gayrel, P., Morel Journel, N., Carnicelli, D., Vedrine, N., Charbonnel, C., *et al.* (2024) Surgical Management for Penile Fracture: A Retrospective, Observational, Multicenter Study. *The French Journal of Urology*, **34**, Article ID: 102590. https://doi.org/10.1016/j.fjurol.2024.102590

[10] Bozzini, G., Albersen, M., Otero, J.R., Margreiter, M., Cruz, E.G., Mueller, A., *et al.* (2018) Delaying Surgical Treatment of Penile Fracture Results in Poor Functional Outcomes: Results from a Large Retrospective Multicenter European Study. *European Urology Focus*, **4**, 106-110. https://doi.org/10.1016/j.euf.2016.02.012

[11] Mir, S.A., Lone, Z.G., Dar, W.A., Ahmad, Z. and Wani, M.D. (2017) Penile Fracture: Our Experience in a Tertiary Care Hospital in Northern India: A Prospective Study. *International Journal of Surgery Science*, **1**, 33-35. https://doi.org/10.33545/surgery.2017.v1.i1a.35

[12] Alafifi, M., Doumer, A., Safwate, R., Mahanna, H.A., Kbiro, A., Moataz, A., *et al.* (2024) Surgical Repair of Penile Fractures: Outcomes of a Prospective Mono-Centric Case Series Study. *Mathews Journal of Urology and Nephrology*, **6**, Article 16. https://doi.org/10.30654/mjun.10016

[13] Dibingue, C., Alafifi, M., Saleh, N., Gallouo, M., Moataz, A., Dakir, M., Debbagh, A.

and Aboutaieb, R. (2021) Outcomes of Surgical Repair of Penile Fracture. *American Journal of Urology Research*, **6**, 6-12.

[14] Mensah, J., Morton, B. and Kyei, M. (2011) Early Surgical Repair of Penile Fractures. *Ghana Medical Journal*, **44**, 119-122. https://doi.org/10.4314/gmj.v44i3.68898

[15] Barros, R., Hampl, D., Cavalcanti, A.G., Favorito, L.A. and Koifman, L. (2020) Lessons Learned after 20 Years' Experience with Penile Fracture. *International braz j urol*, **46**, 409-416. https://doi.org/10.1590/s1677-5538.ibju.2019.0367

[16] Reis, L.O., Cartapatti, M., Marmiroli, R., Oliveira Júnior, E.J.d., Saade, R.D. and Fregonesi, A. (2014) Mechanisms Predisposing Penile Fracture and Long-Term Outcomes on Erectile and Voiding Functions. *Advances in Urology*, **2014**, Article ID: 768158. https://doi.org/10.1155/2014/768158

[17] Magaña-González, J.E., Sánchez-Núnez, J.E., Jaspersen-Gastelum, J., Rosas-Nava, J.E., Acevedo-García, C., Hernández-Farías, M.Á., *et al.* (1969) ¿existe Disfunción Eréctil Posterior Al Manejo Quirúrgico En La Fractura De Pene? Evaluación Funcional Y De La Satisfacción Sexual. *Revista Mexicana de Urología*, **79**, 1-11. https://doi.org/10.48193/rmu.v79i5.497

[18] Ghous, G., Bano, S., Shahjehan, *et al.* (2021) Clinical Spectrum and Risk Factors of Penile Fracture in a Tertiary Care Hospital, Pakistan. *Esculapio*, **17**, 152-156.

[19] Can, O., Merder, E., Canat, H.L., Sabuncu, K., Ariman, A. and Altunrende, F. (2021) The Effect of a Penile Fracture on Ejaculatory and Erectile Functions: A Cross-Sectional Study. *Journal of Surgery and Medicine*, **5**, 1016-1019. https://doi.org/10.28982/josam.847943

[20] Nason, G.J., McGuire, B.B., Liddy, S., Looney, A., Lennon, G.M., Mulvin, D.W., *et al.* (2013) Sexual Function Outcomes Following Fracture of the Penis. *Canadian Urological Association Journal*, **7**, 252-257. https://doi.org/10.5489/cuaj.199

[21] Dienye, P.O., Nwapi, J. and Dan-Jumbo, A. (2021) Penile Fracture in a 32-Year Old Man with Sexual Dysfunction: A Case Report of Rare Outcome of the Use of Aphrodisiacs. *GSC Biological and Pharmaceutical Sciences*, **14**, 71-74. https://doi.org/10.30574/gscbps.2021.14.1.0008

[22] Udoh, S., Kalu, N., Iyanam, V. and Akinbami, O. (2019) Penile Fracture in an Adolescent: Result of Sex-Related Alcohol Expectancy. *IOSR Journal of Dental and Medical Sciences* (*IOSR-JDMS*), **18**, 1-4.

[23] Loposso, M.N., Mbongo, A.M., Moningo, D.M., Punga-Maole, A.M.L. and Lufuma, S.L. (2019) Fracture du pénis de suite d'une consommation excessive d'alcool: Une urgence chirurgicale inhabituelle. *Annals of African Medicine*, **12**, 3266-3269.

[24] Pavan, N., Tezzot, G., Liguori, G., Napoli, R., Umari, P., Rizzo, M., *et al.* (2014) Penile Fracture: Retrospective Analysis of Our Case History with Long-Term Assessment of the Erectile and Sexological Outcome. *Archivio Italiano di Urologia e Andrologia*, **86**, 359-370. https://doi.org/10.4081/aiua.2014.4.359

[25] Spiesecke, P., Mang, J., Fischer, T., Hamm, B. and Lerchbaumer, M.H. (2022) Diagnostic Performance of MRI and US in Suspicion of Penile Fracture. *Translational Andrology and Urology*, **11**, 377-385. https://doi.org/10.21037/tau-21-957

[26] Buckland, B.C., Heijkoop, B., Tronidjaja, J. and Chong, P.G. (2024) Diagnostic Precision in Proximal Penile Fracture: The Use of MRI and the Perineal Approach. *ANZ Journal of Surgery*, **94**, 961-962. https://doi.org/10.1111/ans.18915

[27] Bernstein, A.P., Shayegh, N., Piraino, J. and Ziegelmann, M. (2023) Optimal Timing of Surgical Intervention for Penile Fracture: A Narrative Review of the Modern Literature. *Sexual Medicine Reviews*, **12**, 230-239. https://doi.org/10.1093/sxmrev/qead056

[28] Hardesty, J., Burns, R.T., Soyster, M.E., Mellon, M. and Bernie, H.L. (2023) A Review of the Literature and Proposed Algorithm for Penile Fracture Management. *Sexual Medicine Reviews*, **12**, 100-105. https://doi.org/10.1093/sxmrev/qead041

[29] Owon'Abessolo, P.F., Pondi, C.E., Essomba, A., Ngalle, G.F.E., Fouda, J.C., Mekeme, J.B., *et al.* (2025) Fracture de la Verge au Cameroun: Une Étude Observationnelle Bicentrique de 23 Cas sur la Prise en Charge et les Séquelles Fonctionnelles. *Health Research in Africa*, **3**, 64-69. https://doi.org/10.67260/hra.v3i10.7078

[30] Faridi, M., Agarwal, N., Saini, P., Kaur, N. and Gupta, A. (2015) Myriad Presentations of Penile Fracture: Report of Three Cases and Review of Literature. *Journal of Family Medicine and Primary Care*, **4**, 273-275. https://doi.org/10.4103/2249-4863.154674

[31] Rajendra, N., Vikas, S., Amit, M., Nitin, P. and Wagh, A. (2017) Long Term Outcome of Patients with Penile Fracture Undergoing Delayed Repair. *Open Journal of Trauma*, **1**, 32-36. https://doi.org/10.17352/ojt.000008