



BRIEF REPORT

REVISED Male genital injuries treated at a tertiary hospital in the western region of Nepal: A two-year snapshot. [version 2; peer review: 2 approved]

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Abstract

Background: Male genital injuries are urological emergencies which if not promptly treated with correct therapeutic intervention may lead to loss of fertility due to infections and anatomical disruption of normalcy. This study highlights the clinical scenarios, etiology and outcome of male genital injury cases that were managed at a tertiary care center in Nepal. Such injuries are not frequently encountered as patients are hesitant to report such injuries. The present study is the first from Nepal which depicts a comprehensive report on male genital injuries.

Methods: A retrospective analysis of discharge summaries of the cases of male genital injuries was reviewed during June 2020. All the treated cases during the two-year period from April 2018 to April 2020 at Lumbini Medical College, Nepal were included in the study.

Results: There were eight cases of genital trauma admitted and treated during the study period. All the patients were males and age ranged from six to 71 years with a mean age of 33 ± 21.45 years. Fall injury and road traffic accidents (RTA) were observed to be the primary cause in the majority of cases.

Conclusion: Superficial injuries to the penis and scrotum do not require surgical exploration and could be managed conservatively. However, deeper and complicated injuries, testicular preservation, the functionality of the part and cosmetic issues are taken into consideration which might require a multi-disciplinary approach. Apart from the medical issues pertaining to genital injuries, there are legal and psychological aspects of such events too which should not be ignored.

Keywords

genital injuries, male, Nepal, penile fracture, scrotal laceration

Open Peer Review

Reviewer Status

Invited Reviewers

1

2

version 2

(revision)

06 Jan 2022

version 1

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report



report

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Any reports and responses or comments on the article can be found at the end of the article.

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Author roles: **Atreya A:** Conceptualization, Methodology, Writing – Original Draft Preparation; **Baral S:** Data Curation, Methodology, Writing – Original Draft Preparation; **Menezes RG:** Formal Analysis, Supervision, Writing – Review & Editing; **Nepal S:** Data Curation, Methodology, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

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REVISED Amendments from Version 1

This version of the manuscript incorporates all the edits as suggested by the reviewer. The manuscript is edited for the English language. The portion of the discussion section where sexuality and culture were discussed has been deleted, which was deemed irrelevant for the present study. The title was also amended.

Any further responses from the reviewers can be found at the end of the article

Introduction

Human genitalia play a vital role in providing passage for metabolic waste along with procreation of new life. Protected within the groin they escape trauma; hence injuries are uncommon. However, when injured they are very painful and bleed profusely due to a rich vascular and nerve supply. Genital injuries are seldom life-threatening but may trigger psychological problems^{1,2}.

There are few case reports from Nepal on male genital injuries, however, detailed studies describing the patient profile, nature and cause of injuries have not been done. In this regard, the present research is a first from Nepal that attempts to study the cases of male genital trauma in detail to describe the profile of victims, circumstances of injury, modality of treatment and duration of hospital stay.

Methods

A retrospective review of discharge summaries from the Department of Surgery of the Lumbini Medical College, Palpa, Nepal over the two-year period from April 2018 to March 2020 was conducted to identify patients treated for perineal injuries. The study included all the cases that had a history of injury to the male genitalia. The cases were identified by manual search based upon the diagnosis and history recorded. Discharge

summaries with any of the keywords: penis, penile, scrotum, scrotal, perianal or perineum were selected. The case details were recorded for all the cases included in the study. Specific variables investigated in the study were age and gender of the patient, nature and manner of injury, mechanism of injury, anatomic site, treatment procedure, intra-operative findings and duration of hospital stay. The data thus obtained was then entered into a pre-structured proforma and exported to a Microsoft Excel 2018 spreadsheet and the results were expressed in frequencies, percentages, mean and standard deviation. The research was conducted in the Department of Forensic Medicine during June 2020 at Lumbini Medical College, Palpa, Nepal. The study was approved by the Institutional Review Committee of Lumbini Medical College, letter number IRC-LMC 08-D/020. Furthermore, permission to access and collect departmental data was obtained from the Professor and Head, Department of Surgery.

Results

A total of 15,125 cases were admitted during the study period in the Department of Surgery of whom only eight were cases of genital trauma who were admitted and treated. All the victims were male and age ranged from six to 71 years with a mean age of 33 ± 21.45 years. Fall injury and road traffic accidents (RTA) were observed to be the primary cause for perineal trauma in the majority of cases. **Table 1** depicts the characteristics of victims during the study period. Mean duration of hospital stay was 4.37 ± 1.41 days.

Discussion

Genital injuries in women are more common than men and mostly result from childbirth. Perineal tears in women related to childbirth are repaired by obstetricians. Forensic experts too encounter genital injuries in women during medicolegal evaluation of alleged sexual offences. In both circumstances the specific pattern of injury in women can help readily identify the nature of trauma. Genital injuries in women are usually easily

Table 1. Characteristics of male patients admitted and treated for genital trauma in the two years, April 2018 to March 2020 at Lumbini Medical College, Nepal (n=eight).

Age (years)	Diagnosis	As a consequence of	Management	Days of admission
6	Scrotal hematoma	Fall injury	Incision and drainage	6
17	Scrotal laceration	Perforation by snooker cues stick	Wound debridement and suturing	2
18	Scrotal hematoma	Road traffic accident	Aspiration of hematoma under intravenous anesthesia	5
24	Penile fracture	Traumatic sexual intercourse	Exploration and repair	5
31	Penile laceration	Fall injury	Wound debridement (necrotic skin), circumcision and reconstruction	6
48	Scrotal hematoma	Road traffic accident	Aspiration of hematoma under intravenous anesthesia	4
49	Penile fracture	Masturbation	Exploration and repair	3
71	Scrotal laceration	Domestic violence	Wound debridement and suturing	4

repaired. On the other hand, there are diverse circumstances where the projected phallus in males could sustain traumatic injuries. As these traumas are rare, general surgeons may not be familiar with these urosurgical repair³. Management of male genital trauma is always a challenge because of cosmetic and functional requirements.

The mechanism and severity of injury in male genitalia varies depending upon the location and the state of erectness or flaccidity⁴. The flaccidity of the pendulous portion of the phallus has a tremendous capacity to resist trauma as it restricts transfer of kinetic energy⁴. On the other hand, the root which is fixed, is more prone to trauma in straddle injury or pelvic fractures. Due to the increased pressure within, the penis is more vulnerable to injury when erect. The loose and lax genital skin in the males can deform and slide away from the point of contact, however, if injured there is the potential of avulsion stripping entire penile and scrotal skin⁴.

The manner of injury in most cases were accidents. Road traffic injuries and fall from height were the common reasons behind most cases of perineal injuries in the present study. Due to difficult geographical landscape and poorly maintained roads, road traffic accidents are common in Nepal. Sudden deceleration of a two wheeler on a pothole was the cause of blunt scrotal trauma in one of the three victims of road traffic accidents in the present study. The discharge summary of the other victim revealed blunt scrotal trauma leading to hematoma formation due to a sudden jerk while driving a farm tractor. One patient was hit by a motorbike and sustained injuries to the scrotum.

In rural Nepal, the majority of people are engaged in agricultural activities. Degloving injury of the phallus with fracture was observed in one case, who had given a history of fall from a tree. Literature reveals grinding and crushing injuries to the scrotum while operating machinery, laceration following animal attack with or without complete amputation, burns, gunshot injuries to mention a few which were not reported in the present study^{1,4-6}.

Masturbation in men is considered a compensation for unavailable sex⁷. Aggressive sexual acts were the reason behind penile fracture in two cases in the present study.

Although not life threatening, genital injuries in males result in excruciating pain. Furthermore, the location of the injury in the genital area makes the person feel embarrassed and, in the meantime, reluctant to seek medical help. This might be one of the reasons for the under reporting of genital injuries.

Male genital injuries range from simple swelling as a result of blunt trauma to more complicated injuries like avulsion and amputation. A multidisciplinary approach is required to manage a complicated male genital injury which involves a urologist and a plastic surgeon. Psychological counselling is also an integral element in the treatment of such injuries. In cases where the restoration of the anatomical part is not possible in an amputated or a crushed phallus, the psychological trauma to

the patient is enormous. Patients are likely to feel embarrassed and sexually incompetent⁸.

The head and neck of victims are the prime target for perpetrators in cases of violence and homicide. However, genitals are commonly involved in order to intimidate someone^{9,10}. Chopping off the phallus as a punishment for sexual assault is not uncommon. An elderly man who had attempted sexual intercourse with a woman in Nepal was punished by his family with attempted bobbittectomy¹¹. Sexual abuse is rarely reported as the victim is ashamed and embarrassed¹⁰. This provides the perpetrator the courage and impunity for further heinous crimes¹⁰. Although the intense pain in the genitalia might not last long the psychological trauma is grave which the victim has to bear throughout the rest of his life^{12,13}. The dignity, self-respect and confidence of the person is shattered¹⁴. The present study reported a case where a 71-year-old presented with scrotal laceration. The history was suggestive of domestic violence. In another case a 17-year-old sought medical attention after sustaining a penetrating injury of the scrotum with a snooker cue stick. Although the manner of injury sustained in this case is not mentioned, a possibility of sexual violence cannot be ignored. Patriarchal Nepalese society considers homosexual activity as a taboo; shame, guilt and fear of isolation constitute important reasons for not reporting such cases^{10,11}.

In accordance with Article 192, Section 2, Subsection 'F' of the criminal code of Nepal¹⁵, loss of masculinity as a consequence of physical assault is prosecuted under grievous injury and the perpetrator can be given a custodial sentence with 10 years of imprisonment and a fine of one lakh rupees.

Proper functioning of sexual organs is important not only for reproduction but for married life too. Male impotency is a ground for divorce in Nepal¹⁶. Loss of sexual function due to traumatic injury to the spinal cord or associated nerves as a consequence of accident or intentional trauma is liable for compensation or a fine.

The retrospective nature of this study has its own inherent limitations. We could not find any previous studies from Nepal to compare the findings of the present study. Long term follow-up of the patients to study late complications in the form of urethral stricture, penile curvature, fertility and sexual functions could not be examined.

Conclusion

Genital injuries, although a rarity in south Asian medical literature, are commonly encountered in south Asian countries including Nepal. Although most of the injuries sustained are accidental in nature, there are instances where the nature of injuries is intentional which could be elucidated by a detailed history. Anatomical repair of the trauma along with psychosocial and legal aspects of the event are not to be ignored. A multidisciplinary team approach is often required in the management of a case of male genital injury which should consist of a general surgeon, urologist, plastic surgeon, psychiatrist and a medicolegal expert.

Data availability

All data underlying the results are available as part of the article and no additional source data are required.

Consent

Consent for publication from patients or their families is not applicable to the present study because the present study is

record-based where retrospective review of discharge summaries was done. The Institutional Review Committee of Lumbini Medical College, letter number IRC-LMC 08-D/020 which approved the present study agreed to waive the patient consent in this instance. The anonymity of the patient was maintained, and the data were anonymized, however, these alterations did not distort the scientific data.

References

- Ahmed A, Mbibu NH: **Aetiology and management of injuries to male external genitalia in Nigeria.** *Injury.* 2008; **39**(1): 128-133.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Wille AH, Loening SA: **[Management of trauma to the male external genitalia].** *Chirurg.* 2006; **77**(9): 790-9.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Rees RW, Brown G, Dorkin T, et al.: **British Association of Urological Surgeons (BAUS) Consensus Document for the Management of Male Genital Emergencies - Penile Fracture.** *BJU Int.* 2018; **122**(1): 26-28.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Wessells H, Long L: **Penile and Genital Injuries.** *Urol Clin North Am.* 2006; **33**(1): 117-26, vii.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Kosutic D, Kisner K: **Second-degree chemical burns of the scrotum caused by application of home-made ointment for relief of epididymal pain.** *Burns.* 2008; **34**(1): 150.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Menezes RG, Kanchan T, Lobo SW, et al.: **Male external genitalia injury caused by 'elephant stampede'.** *Injury.* 2008; **39**(1): 136.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Mah K, Binik YM: **Are orgasms in the mind or the body? Psychosocial versus physiological correlates of orgasmic pleasure and satisfaction.** *J Sex Marital Ther.* 2005; **31**(3): 187-200.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Lucas PA, Page PR, Phillip RD, et al.: **The impact of genital trauma on wounded servicemen: qualitative study.** *Injury.* 2014; **45**(5): 825-9.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Regnerus M, Price J, Gordon D: **Masturbation and Partnered Sex: Substitutes or Complements?** *Arch Sex Behav.* 2017; **46**(7): 2111-2121.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Zilkens RR, Smith DA, Mukhtar SA, et al.: **Male sexual assault: Physical injury and vulnerability in 103 presentations.** *J Forensic Leg Med.* 2018; **58**: 145-151.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Atreya A, Baral S, Menezes RG, et al.: **Potential rapist in Nepal punished by his family with attempted bobbittectomy.** *Med Leg J.* 2021; **89**(4): 276-278.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Oosterhoff P, Zwanikken P, Ketting E: **Sexual torture of men in Croatia and other conflict situations: an open secret.** *Reprod Health Matters.* 2004; **12**(23): 68-77.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Norredam M, Crosby S, Munarriz R, et al.: **Urologic complications of sexual trauma among male survivors of torture.** *Urology.* 2005; **65**(1): 28-32.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Daugaard G, Petersen HD, Abildgaard U, et al.: **Sequelae to genital trauma in torture victims.** *Arch Androl.* 1983; **10**(3): 245-8.
[PubMed Abstract](#) | [Publisher Full Text](#)
- The National Criminal Procedure (Code) Act, 2017.** Ministry of Law, Justice and Parliamentary Affairs.
[Reference Source](#)
- The National Civil (Code) Act, 2017.** Ministry of Law, Justice and Parliamentary Affairs.
[Reference Source](#)

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Reviewer Report 22 November 2021

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Raghvendra Singh Shekhawat 

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These findings have promise for urology emergency clinical care. There should be more information on female genital damage, especially in relation to sexual abuse. The socio-cultural context of genital injuries is well-described by the authors. The authors have also managed to touch on the forensic aspects of the matter by mentioning the appropriate sections of the Nepalese penal code. Longer-term repercussions of such injuries in terms of physical and psychological well-being may be included in the discussion section. While the authors' efforts are praiseworthy, additional research with a larger sample size is suggested.

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Forensic Pathology

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 23 Nov 2021

Samata Nepal, Lumbini Medical College, Palpa, Nepal

Thank you for your time reviewing our manuscript and for your positive feedback. As the manuscript focused upon all the cases of male genital injuries treated at Lumbini Medical College, the study did not include genital injuries in females. As this was a prevalence study we did include all the cases during the two-year period (2018- 2020). Although genital injuries are not uncommon, most of the cases go to the specialty hospital with an uro-surgery facility, which is one of the reasons for the small sample size in the present study. We value your suggestion and would conduct future studies with a larger time frame and large sample.

Competing Interests: The authors do not have any competing interests.

Reviewer Report 10 June 2021

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Ramkaji Baniya 

Our Lady of Lake Our Lady of the Lake Regional Medical CenterMedical Center, Baton Rouge, LA, USA, Baton Rouge, LA, USA

Minor changes:

Abstract:

1. First paragraph second line: Delete "chances of".
2. Fourth paragraph. Please rephrase the sentence as "Such injuries are not frequently encountered as patient are hesitant to report such injuries."
3. Second paragraph first line: Delete "was carried out and " and replace with "of".
4. Mention how the cases were managed briefly in the result section on the abstract and the manuscript.

Introduction:

1. First paragraph: replace "genitals play" with "Human genitalia plays".
2. Second paragraph: replace "victim" with "patient".
3. Second paragraph: replace "are a rarity" with "have not been done".

Discussion:

1. First paragraph, sixth sentence rephrase as "As these traumas are rare, general surgeons may not be familiar with these urosurgical repair."
2. Third paragraph first sentence. Rephrase a "the manner of injury in most cases were accidents."
3. Third paragraph. Please rephrase the third, fourth and fifth sentences as " Due to difficult geographical landscape and poorly maintained roads, road traffic accidents are common in Nepal. Sudden deceleration of a two wheeler on a pothole was the cause of blunt scrotal trauma in one of the three victims of road traffic accidents in the present study."
4. Fourth paragraph, second sentence. Change "falling" to "fall". Delete "while collecting cattle fodder."
5. I would recommend deleting the fifth paragraph. The last sentence of the paragraph can be added to the fourth paragraph.
6. Seventh paragraph, last sentence rephrase as "In cases where the restoration of the anatomical part is not possible in an amputated or a crushed phallus, the psychological trauma to the patient is enormous. Patients are likely to feel embarrassed and sexually incompetent." Cite PMID **24560873**¹

References

1. Lucas PA, Page PR, Phillip RD, Bennett AN: The impact of genital trauma on wounded servicemen: qualitative study.*Injury*. 2014; **45** (5): 825-9 [PubMed Abstract](#) | [Publisher Full Text](#)

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Meta-analysis

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 23 Nov 2021

Samata Nepal, Lumbini Medical College, Palpa, Nepal

Thank you for your time reviewing our manuscript and for your positive feedback. All the changes and edits that you have suggested are incorporated in the revised version.

Competing Interests: The authors do not have any competing interests.

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