

Case Report

Fournier's gangrene of the scrotum after inguinal hernia repair: case report

Ketan Vagholkar*, Kunal Deshmukh, Haragovind Sai, Tanay Purandare

Department of Surgery, D. Y. Patil University School of Medicine, Navi Mumbai, Maharashtra, India

Received: 08 May 2023

Accepted: 23 May 2023

***Correspondence:**

Dr. Ketan Vagholkar,

E-mail: kvagholkar@yahoo.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Fournier's gangrene is a severe necrotizing fasciitis affecting the scrotum, perianal and perineal region. Development of this condition after inguinal hernia repair is extremely rare. A 54-year-old diabetic male patient who had undergone right inguinal hernia repair in a private clinic presented with severe necrotizing infection of the scrotum, predominantly of the right side. He was referred to our surgical unit. Initial resuscitation followed by broad spectrum antibiotic therapy and aggressive debridement of necrotic tissue followed by closure of scrotum was performed with excellent outcome. The purpose of presenting this case is to create awareness about this complication after hernia repair surgery especially in cases with comorbidities like diabetes mellitus.

Keywords: Postoperative, Fournier's gangrene, Hernia, Surgery

INTRODUCTION

Fournier's gangrene is a rapidly spreading necrotizing fasciitis affecting the scrotum, perineum and perianal region. This serious condition has multifactorial etiology. In males the scrotum is usually affected by necrotizing fasciitis. Development of such a complication after hernia surgery may pose the greatest surgical challenge to the attending surgeon.¹ Despite aggressive resuscitation under antibiotic cover and debridement yet the mortality due to septicemia continues to be high.

CASE REPORT

A 54-year-old diabetic male patient was referred to our surgical unit. Patient had undergone repair for right sided inguinal hernia in a private clinic. The operative details were not available. It was 20 days after undergoing hernia repair surgery, that the patient developed severe pain, edema and redness predominantly on the right side of the scrotum. Subsequent to referral to center, patient was admitted. Aggressive fluid resuscitation was

administered. The blood sugar was extremely high (360 mg/dl) which was optimized by an insulin drip. The total leucocyte count (TLC) was 12000 cells/cumm. The other blood investigations were within the normal range.

Patient underwent extensive debridement of the right side anterior scrotal wall (Figure 1). However, complete debridement couldn't be achieved in the first session. Subsequently he underwent 4 session of debridement and de-sloughing followed by regular sittings (Figure 2 and 3). The right testis was exposed. Eusol dressings were given in order to achieve chemical de-sloughing. The slough was completely removed by both chemical and surgical means (Figure 4). Pro-granulating agents in the form of placental extract preparations were used to stimulate granulation tissue (Figure 5). Once the bed and the wound were healthy, closure of the scrotal wound was achieved without any tension. Corrugated rubber drain was inserted and removed after 72 hours. Suture removal was done on 12th post-operative day with complete recovery (Figure 6).



Figure 1: Extensive necrosis of the scrotum and deeper tissues, (During primary debridement).



Figure 4: Healthy granulation with wound contraction.



Figure 2: Slough in wound after primary debridement.



Figure 5: Complete healthy granulation in the wound.



Figure 3: Granulation tissue in the wound.



Figure 6: Final outcome.

DISCUSSION

Fournier's gangrene of the scrotum continues to be a devastating infection of the genitalia. The anorectal and lower urogenital tract are usually the source of the organisms.¹ Immunocompromised patients suffering from diabetes mellitus, malignancy, HIV, patient's on anticancer agents and chronic steroids are more prone to developing Fournier's gangrene.² Development of Fournier's gangrene after hernia repair surgery can have disastrous consequences. There is a high likelihood of the mesh getting infected giving rise to high morbidity and even mortality if not promptly treated. Fournier's Gangrene developing after hernia repair surgery is extremely rare with less than 10 cases reported in English literature till date.¹ The attending surgeon should be aware of this complication and ensure prompt diagnosis and treatment. Good control of blood sugar level in diabetics is pivotal. In majority of patients who develop Fournier's gangrene in general, diabetes is a common denominator.

All patients undergoing hernia surgery should have comorbidities optimized before the surgery. In the case presented, patient had uncontrolled blood sugars at the time of surgery and post-operative period. Poor local hygiene with high blood sugars predisposes to Fournier's gangrene of the scrotum.³ Aggressive resuscitation and optimization of comorbidities is the most important primary care on admission followed by surgical debridement.

Surgical debridement and subsequent de-sloughing has to be supplemented with chemical de-sloughing until slough is completely removed. Pro-granulating agents need to be used to stimulate the growth of granulation tissue. Once there is healthy granulation, then closure of defect by simple approximation of edges will suffice.⁴ However, in certain cases where significant portion of the scrotum is lost with shameful exposure of the testicles, a pouch needs to be created in the superficial femoral region.^{4,5} This enables proper and safe placement of the testis. This can't be done in the inguinal region as there is an existing hernia repair. Various plastic reconstructive procedures can be performed to achieve scrotal reconstruction.⁵ Every attempt needs to be made to save the testis. However, in rare circumstances orchidectomy may have to be performed.

Good genital and perianal hygiene need to be recommended after hernia repair surgery to all patients suffering from diabetes.

CONCLUSION

Fournier's gangrene developing after hernia surgery is a rare. Awareness of this possibility is essential for general surgeon. Identifying and optimizing co-morbidities prior to surgery is of utmost importance for an uneventful positive surgical outcome. Special stress needs to be laid on maintaining perianal and genital hygiene in patients suffering from diabetes who are to undergo surgery in the groin or perianal region.

ACKNOWLEDGEMENTS

Authors would like to thank the Dean, D. Y. Patil university school of medicine for allowing the case report to be published.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Dinc T, Kayilioglu SI, Sozen I, Yildiz BD, Coskun F. Fournier's Gangrene as a Postoperative Complication of Inguinal Hernia Repair. Case Rep Surg. 2014;2014:408217.
2. Desai R, Batura D. A contemporaneous narrative review of Fournier's gangrene. Urologia. 2023;3915603231165067.
3. Zhang N, Yu X, Zhang K, Liu T. A retrospective case series of Fournier's gangrene: necrotizing fasciitis in perineum and perianal region. BMC Surg. 2020;20(1):259.
4. Norton KS, Johnson LW, Perry T, Perry KH, Sehon JK, Zibari GB. Management of Fournier's gangrene: an eleven year retrospective analysis of early recognition, diagnosis, and treatment. Am Surg. 2002;68(8):709-13.
5. Voelzke BB, Hagedorn JC. Presentation and Diagnosis of Fournier Gangrene. Urology. 2018;114:8-13.

Cite this article as: Vagholkar K, Deshmukh K, Sai H, Purandare T. Fournier's gangrene of the scrotum after inguinal hernia repair: case report. Int Surg J 2023;10:1091-3.