



Healing a Case of Fournier's Gangrene

Hasan Talebzadeh¹, Mohammad Zarei^{2*} and Shima Nikbakht³

¹Department of Surgery, Imam Khomeini Hospital, Shirvan, Iran.

²Nursing Department, Shirvan Nursing Faculty, North Khorasan University of Medical Sciences, Bojnurd, Iran.

³Shirvan's Imam Khomeini Hospital, North Khorasan University of Medical Sciences, Bojnurd, Iran.

Authors' contributions

This work was carried out in collaboration between all authors. Authors MZ and HT designed the study, wrote the protocol, and wrote the first draft of the manuscript. Authors MZ and SN managed the literature searches, analyses of the study performed. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/BJMMR/2015/19953

Editor(s):

(1) Roberto Manfredi, Department of Medical and Surgical Sciences, University of Bologna, Bologna, Italy.

Reviewers:

(1) Prasan Kumar Hota, NTR University of Health Sciences, India.

(2) Anonymous, University Hassan II, Morocco.

(3) Anonymous, Sao Paulo University, Brazil.

Complete Peer review History: <http://sciencedomain.org/review-history/10600>

Case Study

Received 4th July 2015
Accepted 4th August 2015
Published 19th August 2015

ABSTRACT

Aim: To assess a case of Fournier's gangrene and treatment of this problem.

Case Report: A 70-year-old male presented to the emergency ward with a complaint of scrotal and perineal pain and swelling. He had a past medical history for poorly non-controlled diabetes mellitus. Based on the history, physical examination and these findings, a diagnosis of Fournier's gangrene was made. An emergent surgery consultation was obtained and after evaluation, the patient was transferred to the operating room for debridement of the scrotal and perineal skin and soft tissues. He was treated with surgical debridement thrice beside broad spectrum antibiotics.

Conclusion: This case describes a sample of successful treatment with surgical and antibiotic therapy in Fournier's gangrene.

Keywords: Fournier's gangrene; treatment; necrosis.

1. INTRODUCTION

Fournier's gangrene is a rare, rapidly progressive form of necrotizing fasciitis of the genital and perineal regions [1]. Cause of infection is identifiable in 95% of cases, mainly arising from rectal and genital sources [2]. There are two types of this problem. Type I is arising from a mixture of aerobic and anaerobic organisms [3]. Type II is due to Group A Streptococcus and a second organism [3,4]. Predisposing factors such as diabetes lead to vascular disease that increases susceptibility to polymicrobial infection. The final diagnosis is accorded to clinical signs and physical examination [5,6].

2. CASE REPORT

A 70-year-old male presented to the emergency ward with a complaint of pain and swelling over scrotal and perineal region. His signs and symptoms had started twenty days before presentation, but had progressed rapidly before twenty-four hours. The patient complained of associated fever, nausea, diaphoresis, constipation and urinary retention. Vital signs consist of a blood pressure of 90/64 mmHg, a heart rate of 110 beats per minute and a oral temperature of 39.2°C. On physical examination, the patient had extensive necrosis of the scrotum and perineum with subcutaneous crepitus (Fig. 1).



Fig. 1. Pre op view of Fournier's gangrene

He had a medical history of poorly controlled diabetes mellitus. There was no other relevant past history. Collateral social history revealed that he lived on his own. Laboratory analysis revealed a blood glucose of 386 mg/dL (70-110

mg/dL), White cell Count of 25.2×10^3 ($4.0-11.0 \times 10^3$) and Red cell count of 4.16×10^6 ($4.5-5.5 \times 10^6$).

Based on the history, physical examination and laboratory results, a diagnosis of Fournier's gangrene was made. An emergent surgery consultation was obtained and after diagnosis, the patient was transferred to the operating room for debridement of the scrotal and perineal skin and soft tissues. He was treated with antibiotics (ceftriaxone, gentamicin and metronidazole). An indwelling Foley's catheter, a faecal drainage tube and a nasogastric tube were inserted into the patient. The patient underwent widespread debridement of the scrotum and perineal region (Fig. 2). Several litres of normal saline were used intraoperatively to wash out the wound in order to minimize bacterial counts. The patient returned to the operating room two subsequent times for further debridement prior to reconstruction (Fig. 3). He was discharged approximately two weeks after exhibition with an excellent prognosis. Histopathological examination of debrided tissue revealed acute inflammation and liquefactive necrosis associated with mixed bacterial flora, consistent with the diagnosis of Fournier's gangrene.



Fig. 2. Intra op view of Fournier's gangrene

3. DISCUSSION

Fournier's gangrene is a condition specified by fulminating polymicrobial necrotizing fasciitis of the urogenital and perineal regions. The routine described treatment with antibiotics and emergency operative treatment is essential; however, despite advancements in diagnostic modalities and intensive care management,

mortality can still approach 67% [1]. On presentation, patients may complain of scrotal discomfort, pruritus and swelling with systemic complaints such as fever and myalgia. In physical examination, we discovered tenderness, skin discoloration, edema, blistering, and crepitus [7]. The mortality rate for FG is in range of 20–50% [8,9]. Nature and harmful effects of invasive infection with predisposing factors are causing high mortality. Factors that increase mortality include advanced age, diabetes mellitus, early anorectal infections, presence of systemic sepsis, leukocytosis, low haematocrit, and many others [8-16].



Fig. 3. Post op view of Fournier's gangrene

4. CONCLUSION

Fournier's gangrene is still a very severe disease with a high mortality rate. The main prognostic factors of high mortality include advanced age, renal failure at the time of admission, extension of infection to the peritoneal cavity and septic shock. Early diagnosis and prompt surgical debridement with appropriate supportive therapy is the key to prevent mortality and morbidity.

CONSENT

The patient and his family gave informed consent to the publication of photos.

ETHICAL APPROVAL

All authors hereby declare that all experiments have been examined and approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Corman JM, Moody JA, Aranson WL. Fournier's gangrene in a modern surgical setting: improved survival with aggressive management. *Br J Urol Int.* 1999; 84:85–88.
2. Paty R, Smith AD. Gangrene and Fournier's gangrene. *Urol Clin North Am.* 1992; 19:149–162.
3. Kumar P, Clarke M, eds. *Clinical Medicine.* 5th ed. Edinburgh: WB Saunders. 2002:66–7.
4. McLatchie GR, Leaper DJ, eds. *Oxford Handbook of Clinical Surgery.* 2nd ed. Oxford UK: Oxford University Press. 2003:53,890.
5. Jeong HJ, Park SC, Seo IY, Rim JS: Prognostic factors in Fournier gangrene. *Int J Urol.* 2005; 12:1041–1044.
6. Yilmazlar T, Ozturk E, Alsoy A, Ozguc H: Necrotizing soft tissue infections: APACHE II score, dissemination, and survival. *World J Surg.* 2007; 31:1858–1862.
7. Kim IY. Gangrene: the prognostic factors and validation of the severity index in Fournier's Gangrene. *Gangrene – Current Concepts and Management Options,* Dr. Alexander Vitin (Ed.). InTech. 2011.
8. Eke N. Fournier's gangrene: a review of 1726 cases. *Br J Surg.* 2000; 87:718–728.
9. Morua AG, Lopez JA, Garcia JD, Montelongo RM, Guerra LS. Fournier's gangrene: our experience In 5 Years, bibliographic review and assessment of the Fournier's gangrene severity index. *Arch Esp Urol.* 2009; 62:532–540.
10. Verma S, Sayana A, Kata S, Rai S. Evaluatuion of the utility of the Fournier's gangrene severity index in the Management of Fournier's gangrene in North India: A multicentre retrospective Study. *J Cutan Aesthet Surg.* 2012; 5:273–276.
11. Sorensen MD, Krieger JN, Rivara FP, Klein MB, Wessells H. Fournier's gangrene: management and mortality predictors in a population based study. *J Urol.* 2009;182:2742–2747.
12. Ugwumba FO, Nnabugwu II, Ozoemena OF. Fournier's Gangrene – Analysis of management and outcome in South-Eastern Nigeria. *S Afr J Surg.* 2012; 50:16–19.
13. Unalp HR, Kamer E, Derici H, Atahan K, Balci U, Demirdoven C, Nazli O, Onal MA. Fournier's gangrene: Evaluation of 68

- patients and analysis of prognostic variables. J Postgrad Med. 2008;54:102–105.
14. Tuncel A, Aydin O, Tekdogan U: Fournier's Gangrene. Three years of experience with 20 patients and validity of the Fournier's gangrene severity index score. Eur Urol. 2006;50:838–843.
 15. Czymek R, Frank P, Limmer S, Schmidt A, Jungbluth T, Roblick U, Bürk C, Bruch HP, Kujath P. Fournier's gangrene: Is the female gender a risk factor? Langenbecks Arch Surg. 2010;395:173–180.
 16. Malik AM, Sheikh S, Pathan R, Khan A, Sheikh U. The spectrum of presentation and management of Fournier's gangrene- An Experience of 73 Cases. J Pak Med Assoc. 2010;60:617–619.

© 2015 Talebzadeh et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<http://sciencedomain.org/review-history/10600>