



CLINICAL STUDY ON Fournier's GANGRENE

Dr. Y. Sarath Chandu

Postgraduate, Department Of General Surgery, NMC, Nellore.

Dr. Y. Sree Krishnu*

Postgraduate, Department Of General Surgery, NMC, Nellore.

*Corresponding Author

KEYWORDS :

INTRODUCTION

Fournier's gangrene is a surgical emergency with a high mortality rate. Fournier's gangrene (FG) is an acute, rapidly progressive, and potentially fatal, infective necrotizing fasciitis affecting the external genitalia, perineal or perianal regions, which commonly affects men, but can also occur in women and children¹. Although Jean Alfred gave this condition its eponymous name in 1883, it was first described by Baurienne² in 1764. FG is relatively rare, with an estimated overall incidence of 1.6/100000 males³. Many patients with Fournier's gangrene have either medical or surgical conditions, which are the predisposing factors to FG or its more severe or fatal course.

AIM OF THE STUDY

To study the aetiology, microbiology, predisposing factors, management and outcomes in our setting.

METHODOLOGY

30 patients who presented to the General surgery department NARAYANA MEDICAL COLLEGE, NELLORE during the period from January 2019 to January 2020 form the subjects of the study. This study is a prospective observational study. History, clinical examination, investigations, treatment details recorded and analyzed for the study purpose.

RESULTS

Table No:1 Age distribution

Age Group	Number of cases(n=30)	Percentage
<20	1	3
21-30	2	7
31-40	3	10
41-50	5	16
51-60	15	50
>60	4	14

Table No 2 Etiological Agent

Organism	Number of cases(n=30)	Percentage
E.coli	16	53
Streptococcus	15	50
Staphylococcus	10	33
Bacteroides	9	30
Proteus	4	13
Pseudomonas	2	7
Klebsiella	5	17

Most of the culture aspirates are polymicrobial (80%). Only 14% are monomicrobial, and 6% are sterile aspirates.

Table No:3 Aetiological factors

Factor	Number of cases(n=30)	Percentage
Colorectal disease	9	30
Genitourinary disease	7	23
Hernia repair	2	7
Trauma	6	20
Idiopathic	5	17
Others	1	3

Table No:4 Comorbid conditions

Comorbidity	Number of cases(n=30)	Percentage
Diabetes	14	47
Chronic alcoholic	6	20
Renal failure	4	13
Immunosuppression	5	17
No comorbidity	1	3

Table No:5 Extent of the disease

Extent	Number of cases(n=30)	Percentage
Genitalia only	16	53
Genitalia + Perineum	10	34
Genitalia + Perineum + abdominal wall	4	13

All 30 patients underwent surgical debridement, out of which five patients required multiple debridements.

Table No:6 Reconstructive Procedures

Procedure	Number of cases(n=30)	Percentage
Primary closure	14	47
Skin grafting	5	17
Local flap	1	3
Not required	10	34

Out of 30, five (17%) patients expired, and the remaining 25(83%) were healed entirely and sent home.

DISCUSSION

In our study, the majority of patients of FG are in 5th decade, which is in coordinance with other studies^{2,8}.

The principal etiological agents in our study are E.coli(53%) and Streptococcus(50%), which is same as Mallikarjun¹ et al., smith² et al. Morpurgo⁹ et al., Ayan¹ et al., Sockkalingam⁶ et al. Singh⁷ et al.

80% of culture aspirates are polymicrobial, which coincides with other studies⁵.

In our study, colorectal (30%) and genitourinary diseases (23%) are the main aetiological factors of the disease. Similar findings observed in Mallikarjun¹ et al., which is 20-50% in gastrointestinal and 20-40% in genitourinary disorders.

14(47%) cases in our study are diabetic, which is the main comorbid condition associated with Fournier's gangrene. Similarly, in Sockkalingam⁶ et al., 38.2% of patients had diabetes, followed by chronic alcoholism and immunosuppression.

In our study, the majority of the patients(53%) presented with disease confined to genitalia only similar to Tahmaz⁵ et al.. Perineum, abdominal wall also involved along with genitalia in 4(13%) patients.

Primary closure was done in 14(47%) patients; skin grafting

was done in 5(17%) patients and reconstructive procedure, not at all required in 10(34%) cases. In the study of Sockkalingam⁶, 13 patients out of 34 managed by primary closure for scrotal skin defect, one needed split skin grafting, and two required local skin flap.

Mortality was seen in 5(17%) patients in this study, a similar pattern seen in Sockkalingam⁶ 4(11.8%) cases. Mortality was slightly less in Sorensen⁷ et al.(7.5%). According to Benjelloun¹⁰ et al., the mortality rate ranges from 4% to 80%.

CONCLUSION

Although FG is a relatively rare disease, it is still prevalent in the Indian population. Diabetes is the most common comorbid condition seen in FG patients, followed by chronic alcoholism and immunosuppression. FG is a polymicrobial infection with E.coli, Streptococcus and staphylococcus being the commonest organisms. Local extension and mortality can be prevented with aggressive antibiotics and early surgical debridement. Reconstructive procedures can be done whenever required.

REFERENCES

1. Mallikarjuna, M. N., Vijayakumar, A., Patil, V. S. & Shivswamy, B. S. Fournier's Gangrene: Current Practices. *ISRN Surg.* 2012, 942437, (2012).
2. Smith, G. L., Bunker, C. B. & Dinneen, M. D. Fournier's gangrene. *Br. J. Urol.* 81, 347-355 (1998).
3. Sorensen, M. D. et al. Fournier's Gangrene: population-based epidemiology and outcomes. *J. Urol.* 181, 2120-2126 (2009).
4. Ayan, F. et al. Fournier's gangrene: a retrospective clinical study on forty-one patients. *ANZJ. Surg.* 75, 1055-1058 (2005).
5. Tahmaz, L., Erdemir, F., Kibar, Y., Cosar, A. & Yalcın, O. Fournier's gangrene: report of thirty-three cases and a review of the literature. *Int. J. Urol. Off. J. Jpn. Urol. Assoc.* 13, 960-967 (2006).
6. Sockkalingam, V. S., Subburayan, E., Velu, E., Rajashekar, S. T. & Swamy, A. M. Fournier's gangrene: a prospective study of 34 patients in South Indian population and treatment strategies. *Pan Afr. Med. J.* 31, (2018).
7. Singh, A., Ahmed, K., Aydin, A., Khan, M. S. & Dasgupta, P. Fournier's gangrene. A clinical review. *Arch. Ital. Urol. Androl. Organo Uff. Soc. Ital. Ecogr. Urol. ENefrol.* 88, 157-164 (2016).
8. Wróblewska, M. et al. Fournier's gangrene—current concepts. *Pol. J. Microbiol.* 63, 267-273 (2014).
9. Morpurgo, E. & Galandiuk, S. Fournier's gangrene. *Surg. Clin. North Am.* 82, 1213-1224 (2002).
10. Benjelloun, E. B. et al. Fournier's gangrene: our experience with 50 patients and analysis of factors affecting mortality. *World J. Emerg. Surg. WJES* 8, 13, (2013).