Original Research Paper

Volume-8 | Issue-10 | October-2018 | PRINT ISSN No 2249-555X

Surgery

A STUDY ON FOURNIER'S GANGRENE

Dr. W. Premalatha Sharon Rose MS, DMRT Assistant Professor Department of General Surgery KAP Viswanathan Government Medical College, Trichy

KEYWORDS : Fournier's gangrene, commonest organism, outcome

INTRODUCTION

Fournier's gangrene was first described by Fournier in 1764 as necrotizing fasciitis involving the perineal region. It also involves areas like lower urinary tract, anus, rectum, and colon. It is a fulminating, rapidly spreading infection which causes thrombosis of blood vessels which results in gangrene of skin.

It affects all age groups and has been reported in both males and females and various etiological factors have been described. It is more commonly seen in middle aged groups with immunocompromised status like diabetes mellitus, malignancy, alcoholism, chronic renal disease.

The basic treatment involves resuscitation, prompt excision of all non viable tissue, limiting any infectious process, antibiotics and occasional anatomical reconstruction. Orchidectomy may rarely be required. Methods of reconstruction of scrotum include burying the testes in the thigh or in the abdomen, split skin graft or wide surgical debridement with delayed suturing.

Early recognition with urgent surgical debridement and antibiotics form the mainstay in managing these cases. The course of disease is very rapid and the disease can be lethal if presented lately.

AIM OF THE STUDY

1. To study the most common organisms associated with Fournier's gangrene
2. To study the age distribution and risk factors of Fournier's gangrene
3. To study outcome in management of Fournier's gangrene

MATERIALS AND METHODS

Study was conducted in DEPARTMENT OF GENERAL SURGERY, KAP VISWANATHAN GOVERNMENT MEDICAL COLLEGE, TRICHY over a period of one year from September 2016 to September 2017 35 cases of Fournier's gangrene were analyzed. Patient's history and clinical examination was done to arrive at a diagnosis. Age, etiology, predisposing factors, extent of involvement, pus culture and sensitivity, lab investigations and surgical outcome were evaluated.

OBSERVATIONS

35 male patients admitted with diagnosis of Fournier's gangrene were included in the study. The observations were

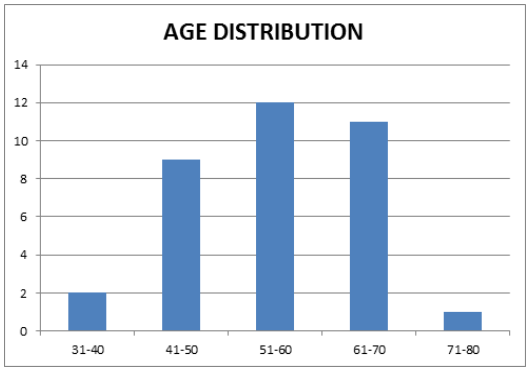
Age distribution

The age of patients varied from 36 to 72 years with majority of patients in 61 to 70 years age group. This goes along with the reports that the mean age of patients appears to be increased from 40 years previously to more than 50 years in recent studies.
The mean age in this study is 55.3 years

AGE GROUP	NO. OF CASES	PERCENTAGE
31-40	2	5.7
41-50	9	25.7
51-60	12	34.3
61-70	11	31.4
71-80	1	2.9

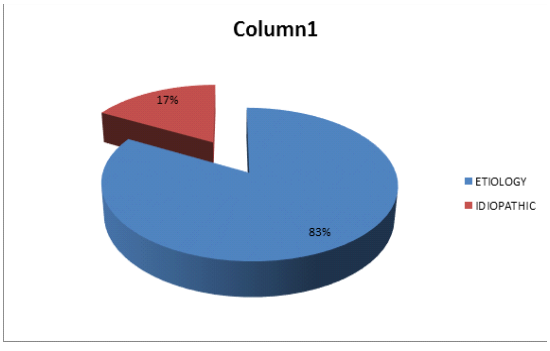
About 31.4% cases are in age group 61-70 years. 34.3% were in the age group 51-60 years. 25.7% cases were in the age group of 41-50 years and only 5.7% were in age group o 31-40. There were no patients below the age of 30 years.

AGE DISTRIBUTION



ETIOLOGY AND PREDISPOSING FACTORS

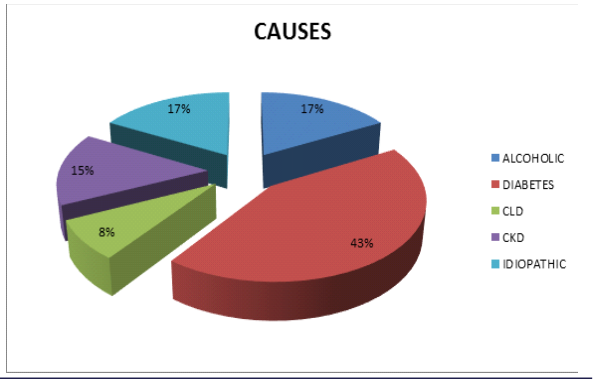
In our study, out of 35 patients, 28 patients had predisposing factors and among the 28 patients, 15 were diabetic and 6 were alcoholic. There were 6 cases of Fournier's gangrene as no causes or predisposing factor could be made out.



CAUSES

14 patients gave history of trauma as initiating factor, the most striking features over recent years is that the patients now always found to have underlying systemic disorder.

In this study 15 patients are known diabetics that is about 43% and 6 patients gave history of chronic alcoholism, 17% idiopathic.



Fournier's gangrene has an identifiable cause in approximate 82.8% of cases and the co morbid diseases that compromises the immune system are

- Diabetes mellitus
- Alcoholism
- Chronic kidney disease
- Liver disease

CLINICAL

In this study patients were admitted with history of fever and malaise for about 1 week. There was history of trauma in 14 patients and 2 patients had history of perianal abscess. The patients complain of severe perineal pain with progressive erythema of skin. Obvious gangrene of portion of genitalia and purulent foul smelling discharge was noted in majority in patients.

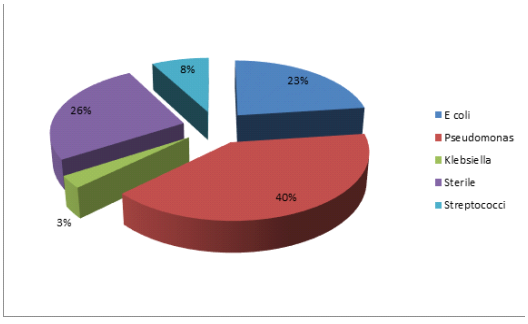
The systemic effect varied from local tenderness with no toxicity to florid septic shock. Toxic features were mainly noted in elderly patients with delayed consultation and co morbid disease. Being a spreading infective process, gangrene was either involving the part or whole of scrotum and some with extension to penis, perineum and thigh. Out of 35 patients gangrene was confined to scrotum in 26 patients with extension to penis in 9.

Soft tissue crepitations, tenderness, foul smelling discharge was noted in whole patients.

LAB STUDIES

ECG and chest x ray were taken routinely and basic investigations were done. There were 15 patients who were diabetic with uncontrolled blood sugar values.

Wound swab and pus culture sensitivity were sent for all patients. In this study the culture was sterile in 9 cases which may be due to inadequate antibiotic therapy received from outside before coming to our hospital. 14 cases were for positive for pseudomonas, 8 cases for E coli, 3 cases for streptococci, and one case for klebsiella



PUS CULTURE

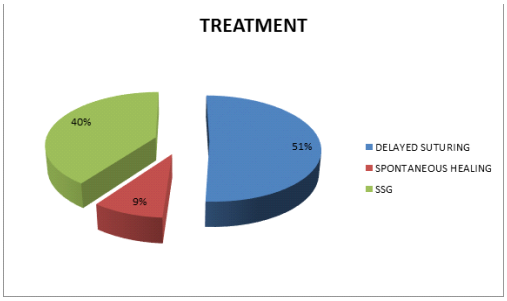
TREATMENT

Treatment is mainly 3 fold.

Firstly the patients should be resuscitated with fluids and blood transfusion should be given if needed and higher antibiotics should be started, after that patient should be taken for emergency wound debridement which is done under iv sedation or spinal anaesthesia. Wound debridement done was extensive and all necrotic tissues were removed. Wound debridement was done until fresh oozing of blood was noted. Patient was initially started on ceftriaxone and metronidazole and later antibiotics were changed according to culture sensitivity. For all patients urinary catheterization was done, blood culture and urine culture were done routinely. Blood culture was sterile in all patients.

Regular cleaning and dressing was done with hydrogen peroxide, betadine and normal saline. Once granulation tissue developed normal saline alone was used.

Healing and spontaneous closure was achieved in 3 patients, 18 patients needed delayed suturing and 14 patients needed split thickness skin graft.



COMPLICATION

Complications like pneumonia, bed sores, and raised renal parameters were observed and treated accordingly.

OUTCOME

Mortality nil.
Following are the poor prognostic factors

1. Age
2. Diabetes mellitus
3. CKD
4. Extent of involvement

Study	Country	No. Of Cases	Mortality Rate[%]	Mean Distribution Of Hospital Stay	% Of Survivors Not In Need Of Skin Graft
Kouadio et al	Ivory coast	30	27	45	100
Brissiand et al	Senegal	44	34	42	48
Clayton et al	Chicago	57	18	48	-
Palmer et al	New York	30	43	41	-
Present study	Thanjavur	35	-	26	60

RESULTS

The following are the results of my study of Fournier's gangrene

1. The mean age in this study is 55.3 years
2. The major predisposing factors are diabetes mellitus and alcoholism
3. Chronic kidney disease was found in 15%
4. There were only 17% of cases for which no cause could be found
5. Predominant microbial agents are Pseudomonas(40%) and E coli(23%)
6. In 26%of cases first culture was sterile
7. All patients are treated with antibiotics and early debridement
8. Spontaneous healing was achieved in 3 patients
9. 15 patients(15%) needed delayed suturing and 14 patients needed skin grafting
10. Adequate resuscitation, transfusion of blood and blood products, early administration of broad spectrum antibiotics with early extensive thorough wound debridement improves the outcome.

COMPLICATIONS

- Acute renal failure
- ARDS/Pneumonia
- Gastrointestinal bleeding
- Heart failure
- Hypocalcaemia

The chief complication of Fournier's disease is unresolved sepsis, which is often caused by either

- Unestablished cause of infection or invasion of necrotizing process outside the obvious wound
- Severe acute illness complications [e.g., line sepsis, bacterial endocarditis, pneumonia]

The abundance of co-morbid conditions [e.g., acute myocardial infarction, respiratory failure, pressure ulcerations, delirium] or the conditions affecting acutely ill bed ridden patients [e.g., pulmonary embolus, deep vein thrombosis, atelectasis, pneumonia]

CONCLUSION

Fournier's gangrene is a dare emergency disorder that needs early diagnosis and treatment. So even minor infection to perineal region should be given due attention as negligence may lead to life threatening complication.

So in Fournier's gangrene early resuscitation of vitals with transfusion of blood and blood products if needed, adequate antibiotics and extensive thorough wound debridement will certainly improve the outcome.