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A study on Fournier's gangrene - Our experience

KEYWORDS: Fournier's gangrene, debridement, Polymicrobial, Diabetes

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ABSTRACT

Background: Fournier's gangrene is an idiopathic gangrene of scrotum. The purpose of the present study was to observe the surgical outcome of the condition. **Materials and Methods:** In this study, 45 cases of Fournier's gangrene were included. Study was done in surgery department of JLNMCH, Bhagalpur, Bihar from January 2016 to December 2016. Thorough examination, investigations and surgeries were performed. The group included only males. **Results:** The average age group was 54 years. Most common associated condition was diabetes. Five patients were treated with antibiotics and other forty patients treated by surgical debridement followed by course of antibiotics. Fifteen patients needed skin grafting. All patients recovered after surgery. Average hospital stay was twenty days. No mortality. **Conclusions:** All the cases of Fournier's gangrene responded well to treatment.

Introduction-

Fourniers gangrene is a vascular gangrene of infective origin caused by haemolytic streptococci, E coli, Cl Welchi, Bacteroids fragilis. Fournier's gangrene is the sudden onset of fulminant gangrene of the external genitalia and perineum, first reported by Baurienne in 1764 and then described by Jean Alfred Fournier, a French dermatologist and venereologist, in 1883, in a series of five cases with no apparent cause. It primarily affects males (90% of cases), in an apparently healthy condition and there have been descriptions in women and even in children as young as 2 months. It is most common in older men (peak incidence in the 5th and 6th decades), but the incidence is rising, most likely due to It is reported like a rare condition, with an incidence of the disease of 1.6 cases per 100000 person-years, although mortality is high (20%–30%, on average according to recent series). The infection is frequently polymicrobial and synergistic with several aerobic, or anaerobic microorganisms including Escherichia coli, Klebsiella, Staphylococcus, Streptococcus, Proteus, and Pseudomonas species. Risk factors include increased age, ethanol abuse, immunosuppressive conditions such as diabetes mellitus (DM),malnutrition, steroid usage, malignancies, etc. Chronic renal failure, pre hospital delay time, extent of the affected area, serum-blood urea nitrogen and creatinine level are some of the factors that affected the prognosis of the disease. It is associated with a mortality rate of 9-43%. Patients presents with pain in scrotum, fever, severe toxicity, extensive skin sloughing occurs leaving normal testis exposed. Aggressive teamwork is the key to the successful treatment of these patients with complex problems. The use of a multidisciplinary approach using the expertise team is critical to the management. The aim of our study is to report our experience with the management of Fournier's gangrene

Materials and Methods-

In this study, 45 cases of Fournier's gangrene were included. Study was done in surgery department of JLNMCH, Bhagalpur, Bihar from January 2016 to December 2016. Thorough examination, investigations and surgeries were performed. The group included only males. Age, sex, predisposing factors, duration of hospital stay and outcome of treatment was noted. The data collected in a specially designed Performa were processed and subjected to relevant statistical analysis.

Results:

The average age group was 54 years.

Age group	Number of patients
40-45	5
46-50	4
51-55	25
56-60	7
61-65	4

Most common associated condition was diabetes.

Predisposing Factors	No. of Patients
Diabetes Mellitus	34
Scrotal Abscess	2
Idiopathic	7
Trauma	2

Five patients were treated with antibiotics and other forty patients treated by surgical debridement followed by course of antibiotics. Fifteen patients needed skin grafting.

Mode of treatment	No. of Patients
Antibiotics	5
Surgical debridement	27
Surgical debridement with skin grafting	13

Routine laboratory tests, blood and urine analysis were performed. Biochemical tests revealed a rise of leucocytosis (hyperleukocytosis> 10.000/mm3) and moderate anemia. During the examination of the patients we found a source of infection in the perianal area, on the genitalia and on the perineal skin. The most common site of infection origin was the scrotum. All patients recovered after surgery. Average hospital stay was twenty days. No mortality.

Discussion-

Fournier's gangrene is a life threatening disease and a medical emergency. Fournier's gangrene begins as a local infection that is caused by bacteria inhabiting the lower gastrointestinal tract or the perineum. It occurs next to the portal of entry, which is often difficult to identify. The infection progresses to an inflammatory response that spreads to the fascia, with resultant obliterative endarteritis, thrombosis of the cutaneous and subcutaneous vessels, and tissue necrosis. The synergistic action of aerobic and anaerobic organisms plays a major role in the progressive course of the infection. Like many other authors we found that the predominant predisposing factor diabetes mellitus of type II and other predisposing factors are variable. A proposed explanation for association with DM is the high levels of sugar in blood decreasing phagocytic and intracellular bactericidal activity and creation of neutrophil dysfunction thus leaving the patient immunocompromised. All patients received routine empirical antibiotic treatment with gentamicin (160 mg/d), ceftriaxone (2 g/d) and metronidazole (500 mg/8 h). Average length of hospital stay was overall 20 days. In spite of advancement in management, mortality rates are still high. In some series, it ranges from 14-45%. However, in this study, our mortality was 0%.

Conclusion-

Fournier's gangrene which is a rapidly progressive, fulminant polymicrobial synergistic infection of the perineum and genitals, is now changing pattern. Extensive surgical debridement and broad

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spectrum intravenous antibiotics remain the mainstay of treatment in order to reduce the morbidity and mortality.

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