

Case report



## NURSE'S ROLE IN CARING FOR A PATIENT WITH FOURNIER'S GANGRENE

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### ABSTRACT

Fournier's gangrene is a life-threatening condition characterized by rapidly progressive necrotizing fasciitis, often leading to sepsis and multiple organ failure. While historically associated with males, the condition can affect both genders, with varying degrees of severity. This case report explores the complex management of a 59-year-old male patient with a history of alcohol abuse, diabetes, cirrhosis, and a long-term smoking habit, who presented with Fournier's gangrene. The patient's critical condition and complex medical history presented significant challenges for healthcare providers, particularly nurses, who played a pivotal role in his care. These cases occur rarely in practice and require specific care and compliance with surgical nursing techniques per protocol.

This case report not only sheds light on the growing incidence of Fournier's gangrene among both genders but also underscores the indispensable role of nurses in the multidisciplinary care of patients with this challenging condition. Comprehensive nursing care, patient education, and meticulous attention to detail are essential in improving patient outcomes and reducing mortality rates associated with Fournier's gangrene.

**Keywords:** caring for a patient, Fournier's gangrene, Nurse's role,

### INTRODUCTION

Fournier's gangrene is an occult onset, rapidly progressive, necrotizing fasciitis leading to sepsis and multiple organ system failure, very often fatal [1, 2, 3].

Previously considered a pathology characteristic only of males, today, Fournier's gangrene is known to also occur in females in a male: female ratio of 10:1 [1], with a more severe course being characteristic of the female gender [4].

The mortality rate within the literature ranges between 4 and 75%, with some foreign sources indicating that this rate can be as high as 80% due to advanced age and delays in diagnosis and treatment [5, 6, 7, 8]. With mortality rates varying widely, it is essential to highlight the significance of the nurse's role in the care of Fournier's gangrene patients.

This report aims to elucidate the crucial role of nurses in the management of Fournier's gangrene patients, emphasizing their contributions to patient care, preoperative, intraoperative, and postoperative care, and the importance of patient and family education in improving treatment outcomes.

### CASE REPORT

**Patient Profile:** A 59-year-old married man of poor social status. The patient lived alone with no contact with his wife and son. With a history of consuming about 500ml per day of hard alcohol systematically for years. A long-term smoker, he smoked about 1.5-2 packs of cigarettes per day. Diagnosed with diabetes and cirrhosis, he did not take his prescribed medications or go for regular checkups afterwards.

### Clinical Presentation

The patient visited an outpatient surgeon. Upon presentation, he exhibited severe sepsis, marked by pale grayish skin, filiform pulse, and tachycardia. Physical examination revealed abdominal distension and lower abdominal pain. Notably, the patient displayed asymmetry in the gluteal region, with the left gluteus tense, painful, and bearing necrotic spots perianally and sacrally, accompanied by scanty foul-smelling discharge. Given the serious general condition, he was referred for emergency hospitalization in the surgical department of the "St. Caridad" Medical Center.

### Diagnostic and Clinical Findings

• **Laboratory Findings:** Blood tests revealed severe infection markers, confirming the patient's septic state. In addition, the patient's blood glucose levels were significantly elevated, necessitating an evaluation of diabetic management.

• **Imaging:** X-ray examinations were performed on the lungs, chest, abdomen, and excretory system, revealing crucial diagnostic information.

• **Microbiology:** Due to the presence of mixed flora with aerobic and anaerobic pathogens, treatment necessitated the administration of a 3rd generation cephalosporin in a high dose.

• **Operative Intervention:** Surgical exploration revealed extensive necrosis and inflammation, necessitating excisions, debridement, and meticulous hemostasis. Multiple operations were performed to control the inflammatory process.

To ensure comprehensive care, we will break down this case report into the following subtopics: preoperative care, intraoperative care, and postoperative care.

### Preoperative Care

• **Admission** - the nurses admit and accommodate the patient in the emergency department to the nosological principle, gender and age - a septic room and, if possible, an isolator.

• **Patient Monitoring** - Continuously monitoring the patient's condition and behavior - observation of the patient, his facial features, the position he takes in bed, complaints. Notifying the doctor when pathological deviations are detected changes in the general and local status.

• **Preoperative Procedures** - a full blood sample is drawn by the nurses. They prepare and schedule the patient for a quadruple blood sugar profile, after results are obtained, they consult the patient with an internist and administer the prescribed Insulin therapy. All necessary documents are filled out, and the patient is accompanied for an

X-ray of the lungs, chest, abdomen and excretory system. The tests that the nurses perform are temperature, pulse, respiration, blood pressure, diuresis and defecation

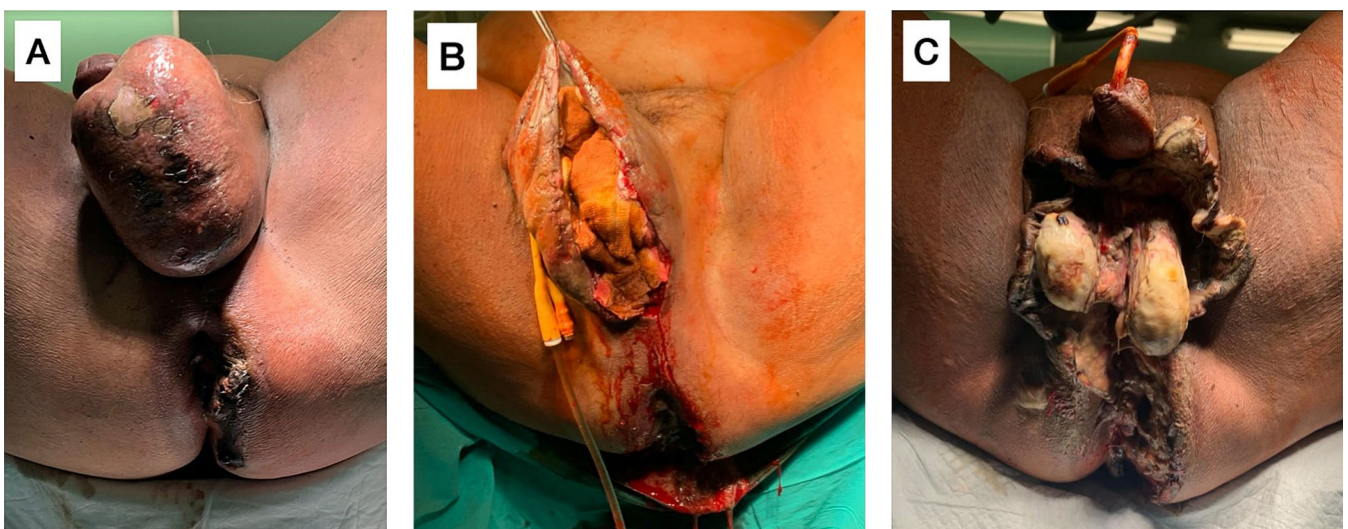
• **Medication Management** - the prescribed therapy requires the nurse to ensure and maintain a working peripheral venous source and follow the rules for antibiotic administration. The prescribed therapy requires the nurse to ensure and maintain a permanent peripheral venous source and follow the rules for antibiotic administration. After a scarification test was performed and reported as negative, treatment was with a high-dose third-generation cephalosporin. The microbiology is not always reliable and accurate because there is a mixed flora of aerobic and anaerobic pathogens.

• **Psychological Support** - recognizing the emotional and psychological strain on patients, nurses provide support, address their concerns, and help alleviate anxiety. When conducting the initial predisposing conversation with the treated person to ensure psycho-emotional comfort, we understand that the patient has low self-esteem due to poor social status and lack of contact with the family.

### Intraoperative Care

Both scrotal sacs were incised and excised, perineum, perianal and gluteal on the left, where an unlimited inflammatory process with necrosis was found covering the above areas, two-thirds of the scrotal sacs were excised, revision of the perianal space, where a large lesion (perforation) at the anus-rectum border, where the inflammation probably started, extensive debridement until healthy tissue is reached (fig. 1). Perianal and gluteal excision of large necrotic masses was performed with excision of the superficial and deep fascia of the pelvic floor and gluteal musculature. In the operating room, copious washings with hydrogen peroxide and compresses were performed. Meticulous hemostasis was performed. A sterile dressing was applied. Operative interventions were performed daily until the inflammatory process was controlled or limited.

**Fig. 1.** A) Preoperative image; B) Postoperative image after first debridement; C) Postoperative image after second debridement.



## Postoperative Care

Postoperative nursing care is instrumental in the patient's recovery:

• **Patient Monitoring** - after the admission of the patient from the operating room, nurses closely monitor vital signs, respiration, blood pressure, and diuresis, keeping a vigilant eye on the patient's overall condition. The patient was placed on a surgical bed with the necessary equipment alone in a room (isolator). After receiving the information from the surgical team about: the operative diagnosis, the type of anesthesia used, the condition of the patient during and after the operation, the prescribed therapy by the team, we made sure to comply with the nursing care accordingly. We checked the patency of catheters (urethral, peripheral venous catheter), nasogastric tube, drains.

• **Wound care and hygiene** - the patient is put on bed rest, all personal and hygienic dressings must be done by a nurse with the help of a hospital janitor. Post-op: The nurse dressed the patients in the bathroom, assisted by the hospital janitor with an HMI scrub and a full body scrub, and then bandaged the patient with a doctor. The bedridden patient was given a rubdown, dressing of the affected area with hydrogen peroxide and HMI SCRUB, and subsequent dressing. Given that the wound site is close to the patient's anus, the risk of further infection was observed. Conducting prophylaxis against decubitus. [9, 10].

## DISCUSSION

In caring for patients with Fournier's gangrene, nurses play a pivotal role in ensuring comprehensive care and optimal patient outcomes with:

1. **Comprehensive Care:** From preoperative to post-

operative phases, nurses assess, monitor, and administer treatments that are critical for managing Fournier's gangrene. They facilitate a seamless flow of information, ensuring a continuum of care that is crucial for patient well-being.

2. **Adherence to Protocols:** Nurses adhere to aseptic techniques, administer antibiotics following prescribed guidelines, and maintain sterile environments during surgery, all in accordance with established protocols and guidelines.

3. **Emotional Support:** Recognizing the emotional and psychological challenges faced by patients, nurses provide support and education, addressing not only the physical aspects of the condition but also the emotional well-being of the patient and their family.

4. **Patient Education:** By educating patients and their families about the severity of Fournier's gangrene, the importance of follow-up care, and wound management, nurses contribute significantly to patient compliance and improved outcomes.

It is undeniable that the significance of nursing care in the overall treatment process is immeasurable.

## CONCLUSION

The patient's journey through Fournier's gangrene is a complex and life-threatening one, requiring a multidisciplinary approach. Nurses, with their diligence, attention to detail, and compassionate care, are central to this approach. They are the bridge between the patient, the surgical team, and the patient's family, ensuring not only medical interventions but also holistic care. The care provided by nurses is not only a duty but a lifeline, fostering hope and recovery in the face of adversity.

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