

# NEONATAL SCROTAL WALL NECROTIZING FASCITIS (FOURNIER GANGRENE SCROTUM) IN A ONE MONTH OLD NEONATAL: A RARE CASE REPORT

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## ABSTRACT

**Objective:** In this report, we present our case of a one-month-old neonatal with Fournier gangrene who was referred to our hospital. **Case(s) Presentation:** A one-month-old patient came from a referral hospital with chief complaint had a diaper rash since 6 days before hospital admission, fever existed, and patient's scrotal became swollen and appear white spot. The patient was referred to Ulin General Hospital Banjarmasin for a necrotomy debridement. **Discussion:** We recommend more than one antibiotic to cover it, including one specifically targeted toward it. Both *Enterococcus* and *S. aureus* have been implicated as the causative organisms of Fournier gangrene in previous reports. **Conclusion:** Fournier gangrene in neonatal is a rare case and potentially life-threatening disease, it is a progressive gangrenous of the genitalia, perineum and perianal regions.

**Keyword:** Fournier gangrene, scrotal, neonatal.

## ABSTRAK

**Tujuan:** Dalam laporan ini, kami menyajikan kasus bayi baru lahir berusia satu bulan dengan Gangrene Fournier yang dirujuk ke rumah sakit kami. **Presentasi Kasus:** Seorang pasien berusia satu bulan datang dari rumah sakit rujukan dengan keluhan utama mengalami ruam popok sejak 6 hari sebelum masuk rumah sakit, mengalami demam, dan skrotum pasien membengkak serta muncul bercak putih. Pasien dirujuk ke RSUD Ulin Banjarmasin untuk menjalani debridemen nekrotomi. **Diskusi:** Kami merekomendasikan lebih dari satu antibiotik untuk mengatasi penyakit ini, termasuk satu antibiotik yang secara khusus ditujukan untuk penyakit tersebut. Baik *Enterococcus* dan *S. aureus* telah terlibat sebagai organisme penyebab Gangrene Fournier dalam laporan sebelumnya. **Simpulan:** Gangrene Fourniere pada neonatus merupakan kasus yang jarang terjadi dan merupakan penyakit yang berpotensi mengancam jiwa, merupakan gangrene progresif pada daerah genitalia, perineum, dan perianal.

**Kata kunci:** Gangrene Fournier, skrotum, neonatus.

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## INTRODUCTION

Fournier gangrene in neonatal is a rare case and potentially life-threatening disease, it is a progressive gangrenous process of the genitalia, perineum and perianal regions.<sup>1</sup> Fournier gangrene has an abrupt onset with the progressive gangrenous formation which can lead to gangrenous genitalia destruction. Most of the reported Fournier gangrene cases are caused by polymicrobial infection, which includes gram-negative, gram-positive, aerobic and anaerobic bacteria. Establishing the diagnosis of Fournier gangrene is challenging because of surgical

emergency as a progression from genitalia to perineum to the abdominal wall may occur in a short time (often within hours).<sup>1</sup>

The exclusion of Fournier gangrene should be a priority during every consultation for acute scrotal swelling. Fournier gangrene is more common in adults with peak incidence occurs between 20 and 50 years of age. Even though Fournier gangrene can occur in all age groups, it is infrequently found in pediatric age groups. The literature review only found 56 reported cases of Fournier gangrene in children which is 66% of them have been found in the first three months of life.<sup>1,3,4,5</sup>

In this report, we present our case of a one-month-old neonatal with Fournier gangrene who was referred to our hospital.<sup>2,7</sup>

### CASE(S) PRESENTATION

One month old patient came from a referral hospital, according to the patient's mother the chief complaint is her baby had a diaper rash since 6 day before hospital admission, it appeared suddenly, and also had fever. She brought him to the public health center and given paracetamol, cetirizine and gentamicin cream for diaper rash. After applying it, the diaper rash became worse, baby's scrotal became swollen, and still had fever too.

The patient's mother decided to wash both his scrotals with warm water, the redness spread to his thighs. His mother confessed that she was not clean it well after defecated. On the next day, his scrotal appeared white spot and it added up. Finally, the patient's mother took her child to the nearest hospital, and the doctor said he needed to be referred to Ulin General Hospital Banjarmasin for advanced surgery.

In Ulin General Hospital Banjarmasin, he had planned for a necrotizing debridement. And the patient was hospitalized immediately for surgery preparation. On the next day, he had surgery under

general anesthesia On identification of penile glans the operator found phimosis had appeared, pus, and it circumcised to normal tissue limits, on identification of scrotal, found necrotic tissue covering 2/3 part of the scrotum to the lower border of the right and left testes, No pus and bleeding was found, the operator performed necrotomy debridement, control the bleeding, and wash it with sodium chloride infusion hydrogen peroxide fluid betadine. And also covered the wound with allevyn and sterile gauze. The operation was done, patient had intravenous fluids D5 1/4 NS 23 micro dpm, cefotaxime three times 100 mg daily(iv), paracetamol three times daily 40 mg (iv), wound care after slough become minimum we reconstruction scrotum, closed testis and scrotum with catgut chromic 4.0 silk.

### DISCUSSION

Fournier gangrene is more common in adults peak incidence occurs between 20 and 50 years of age - and is extremely rare in children. Only around 80 cases of necrotizing fasciitis have been reported in the literature. Fournier gangrene can affect any part of the body in children and baby, but the trunk and perineum are commonly affected in newborn baby. Like adults, preterm and low-birth



**Figure 1.** One Month Old patient with Fournier gangrene.



**Figure 2.** Testis and scrotum condition during operation.

weight babies with impaired immune status and those with poor local hygiene appear to have increased risk of this rare disease. An initial injury to the skin was documented in the majority of children but was not noted or reported in up to 40% of cases in some studies.

When the skin barrier is breached, the organisms appear to spread into the subcutaneous tissue and produce fascial necrosis with an obliterative endarteritis leading to further necrosis of tissue.<sup>1,8,10</sup> The disease processed, like our patient, is usually outside the tunica and hence the blood supply via the testicular artery is preserved. Patients present with bilateral, often painless scrotal swelling and erythema of overlying skin. The management of this condition is still controversial. Some surgeons recommend immediate exploration whereas others prefer conservative management.<sup>10,11</sup>

We decided to performed surgical debridement necrotomy immediately for this case because scrotal abscess could not be safely ruled out. This surgical approach allowed us to solve the Fournier gangrene early with Necrotic tissue in the form of slough covering 2/3 of the scrotum to the lower part of the right and left scrotal. No radiological investigations were performed in this case, as the presence of an abscess and systemic signs need surgical exploration immediately. Even though the other literature suggest early aggressive surgical debridement of Fournier gangrene wounds, a recent report shows a successful outcome in patient with a selective surgical debridement.<sup>1,12,13</sup>

Fournier gangrene should be considered if we found scrotum pain, redness, with rapid progression to gangrene and sloughing of tissue. An early surgical approach is necessary. However, the need for aggressive wide debridement appears to be unnecessary in localized disease as long as adequate antibiotic had been given. We recommend more than one antibiotics to cover it, including one specifically targeted toward it. Both *Enterococcus* and *S. aureus* have been implicated as the causative organisms of Fournier gangrene in previous report.<sup>6,14,15</sup>

## CONCLUSION

Fournier gangrene in neonatal is a rare case and potentially life-threatening disease, it is a progressive gangrenous of the genitalia, perineum

and perianal regions this is a rare case and potentially life-threatening disease.

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