



A Nightmare In Obstetricians Practice: A Rare Case Of Perineal Necrotising Fascitis After Vaginal Delivery

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Abstract

Wound infection is observed more in cases of cesarean section than in vaginal delivery. Necrotising fascitis is an aggressive infection involving superficial fascia and subcutaneous tissue ultimately leading to systemic toxicity. Here we report a 22 years old female who presented to us on day 11 of normal vaginal delivery with episiotomy with extensive ulcerations on the thigh extending upto perineum involving the episiotomy thigh. Patient was managed by anemia correction with surgical debridement followed by split skin grafting and Singapore flap cover. Flap division was done after 4 weeks. Patient was discharged in satisfactory condition.

Keywords: Necrotising fascitis, Anemia, Split skin graft, Post partum wound infection

Introduction

Maternal mortality is a global issue of concern and puerperal infection is one of its major cause. Risk factors associated with wound infection are obesity, diabetes, hypertension, anemia, immunosuppression, steroid use and improper hemostasis. Here we report a rare case of rapidly progressing necrotizing fascitis complicating a postpartum normal vaginal delivered young patient.

Case report

A female of 22 years age who delivered vaginally with right mediolateral episiotomy her first female baby at a primary health care center 11 days back presented to our hospital in undernourished and anemic state with extensive ulcerations on the right medial aspect of thigh extending upto the perineum and involving the Day 3 in healthy condition. She had fever on Day 5 for which she took medication

without any prescription after which she developed multiple hyperpigmented patches over her extremities and periorbital region. Alongside, she developed a blister of around 6x6 cm over medial aspect of mid-thigh which got spontaneously ruptured leaving behind abraded raw area. She also gave history of similar reaction to medications 1 year back. On day 7, she noticed swelling and redness around the ruptured blister involving episiotomy site. Within 2 days, the skin got sloughed out leaving a big 10x8 cm ulcerated and necrosed area over the medial aspect of mid thigh and perineum. The episiotomy site also had areas of necrosed and ulcerated tissue. During this whole span of time, patient had high grade fever with nausea and vomiting.

On admission, patient was pale and dehydrated. Overall general condition of the patient was very poor with 15.4 BMI. Her vitals were: Temperature- 101.4°F, PR 118/min, BP 90/60 mmHg, RR 28/min.

On local examination, an ulcer of around 8x8 cm with undermined edges was seen over the medial aspect of thigh extending medially to right labia majora. The base of the ulcer was infected with necrosed tissue and hardly any granulation tissue was visible (figure 1) with purulent, copious and foul-smelling discharge at its base. Her laboratory investigations were: hemoglobin 2.7 g/dL, total leucocyte count 19,800/ μ L, total protein level 4.6 g/dL, serum albumin level 2.4 g/dL, serum creatinine 0.6 mg/dL, random blood sugar 80 mg/dL, serum sodium 134 mmol/L, serum potassium 3.7 mmol/L, C-reactive protein 44.3 mg/L, LDH 665 IU/L and Pro calcitonin 23.35ng/ml. The Laboratory Risk Indicator for Necrotizing Fasciitis (LRINEC) score was 6.

A diagnosis of NF was made on the basis of clinical and laboratory findings. Patient was immediately shifted to high dependency unit and aggressive medical and surgical management was undertaken.

Pus from the discharge site and high vaginal swab was sent for culture and sensitivity testing. She was transfused 4 units of PCV pre-operatively and broad-spectrum antibiotics were started. On third day after building up hemoglobin to 6.3, X-ray lower limb was done to rule out bone involvement which was normal. Wide surgical debridement was done under general anaesthesia with 1 unit of PCV transfusion. Her pus culture report showed *Acinetobacter* which was sensitive to aminoglycoside and doxycycline. The patient was empirically started on piperacillin–tazobactam, metronidazole and amikacin which was continued for 10days. For the next 2 weeks regular dressing of the wound was done (Figure 2). Singapore flap cover was done for type Ib perineal defect and Split skin grafting was done after 2 weeks of surgical debridement followed by flap divison (Figure 3). Patient was discharged in good condition.

Figure I: Images at presentation and after surgical debridement



Figure 1: Necrosed and ulcerated area involving the right medial thigh and perineum

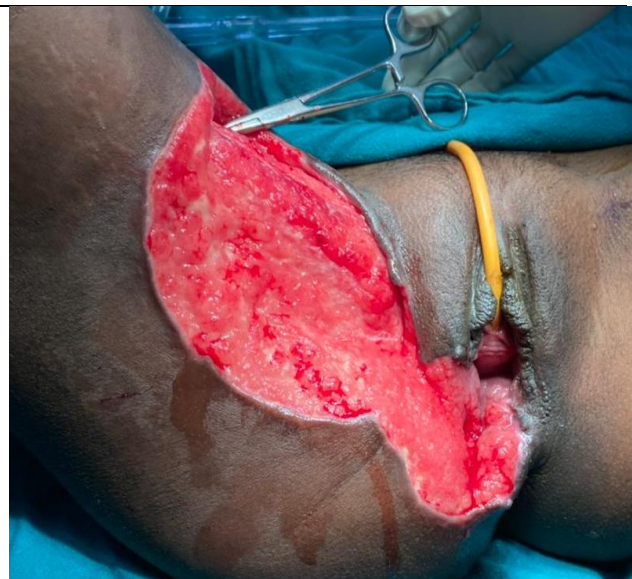


Figure 2: 2 weeks after extensive debridement

Figure II: Post operative images after grafting and flap division



Figure 3: Post operative picture after Singapore flap cover and split skin graft



Figure 4 : Post operative picture after Flap division

Discussion

Hippocrates was the first one to describe necrotizing fasciitis in the 5th century BC as a complication of “erysipelas” and most dangerous amongst them was that involving genital area (1). Necrotising fasciitis is a dreadful soft-tissue infection caused by numerous microorganisms. Anemia, obesity, drug abusers, diabetes, immunosuppression, peripheral vascular disease are some of the predisposing factors for the development of necrotizing fasciitis.

Early suspicion of NF should arise when severe pain is observed which is disproportionate to the local findings along with appearance of signs of systemic toxicity. It often presents with symptoms similar to that of cellulitis or wound hematoma and is hence difficult to diagnose initially. Although the involved skin in NF is smaller, the underlying necrosed subcutaneous tissue and fascia is extensive, thus making the clinical differentiation between cellulitis and NF immensely difficult. Patients with NF often present with initial non-specific local signs like

erythema, edema, crepitus, tenderness, fluctuation, necrotized blisters. With the progress of the disease, rapid sloughing of the skin occurs ultimately leading to an ulcer with undermined edges and malodorous copious discharge. It may rapidly progress to systemic toxicity with hypotension, tachycardia, altered level of consciousness, multiorgan failure if prompt and urgent therapeutic intervention is not taken.

LRINEC scoring system was developed by Wong et al for diagnosing NF. Scores were assigned for levels of C-reactive protein, haemoglobin, total leucocyte count, serum sodium, serum creatinine and blood sugar (2). A score of ≥ 8 is associated with strong PPV for making diagnosis of NF. For early diagnosis, inclusion of radiological imaging, computed tomography, and magnetic resonance imaging should be done which helps in further determining the extent of soft tissue infection and will thereby help in delineating the limit of surgical debridement.

A strong clinical suspicion with early diagnosis, vigorous resuscitation and aggressive surgical debridement under cover of higher antibiotics is crucial in successful management of NF. Delayed fascia closure is necessary to reduce the risk of abdominal compartment syndrome. Studies in the past have documented an increase in the mortality rate from 35 to 53 % when surgery is delayed by 24 hours (3).

Conclusion

This case report calls attention to the risk of NF in undernourished and anemic women in low and middle income countries during postpartum period and also highlights the importance of correction of anemia in successful management of NF apart from surgical debridement. Importance to diet and socioeconomic background along with general physical examination including BMI, signs of vitamin and mineral deficiency should be given. To conclude, strong clinical suspicion, early diagnosis

followed by extensive debridement of necrosed tissue along with proper supportive care forms the mainstay of the treatment.

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