

# Necrotising Fasciitis Of Uterus After Suction Evacuation For Termination Of Pregnancy: A Rare Case

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Date of Submission: 26-05-2024

Date of Acceptance: 06-06-2024

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## I. Introduction

Necrotizing fasciitis is a serious soft tissue infection that can lead to significant morbidity and mortality. It was first described anecdotally in the 1870s, but remained unnamed until 1952 when Wilson described the entity in a case series and coined the phrase “necrotizing fasciitis.”<sup>1</sup> Necrotising fasciitis is a rapidly progressive soft-tissue infection that involves the superficial and deep fascia, leading to thrombosis of the cutaneous vessels and gangrene of the underlying tissues (Hancevic et al., 1998). The lack of clear boundaries and late involvement of the overlying skin masks an early diagnosis. Risk factors include compromised immune state, diabetes mellitus, malnutrition, obesity, advancing age, renal impairment, malignancy, trauma (Rouse et al., 1982) and the use of steroids and NSAIDs (van Ammers et al., 1982) or presence of peripheral vascular disease. Although this is seen relatively commonly in general surgical practice, it is a rare complication in obstetrics and when it occurs it frequently presents as a fulminating disease. Although it is generally caused by group A streptococcus, it is often associated with polymicrobial infection in the setting of caesarean delivery.<sup>2</sup>

With an incidence of 2 per 1000 caesarean deliveries, necrotizing fasciitis of pelvis is relatively uncommon; however, when it occurs, the mortality rate can reach 30%–60%, even with use of antibiotics<sup>3</sup>. Our case of necrotising fasciitis of uterus emphasizes the importance of early surgical intervention, and the need to inspect the uterus and hysterectomy site at the time of initial wound debridement. Over the past decade, there has been an increase in awareness of infections associated with pregnancy and delivery.<sup>4</sup> Each of these infections has the potential to progress to severe sepsis and septic shock<sup>5-7</sup>, highlighting the need for adequate measures to prevent and treat pregnancy-associated and postpartum infections. The most significant risk factor for postpartum infection is caesarean section, which is frequently associated with wound infection, endometritis or urinary tract infection<sup>8</sup>; post-operative incidence of infection is estimated at 20-25%.<sup>9</sup> For this reason evidence reviews and guidelines recommend the routine administration of prophylactic antibiotics to women undergoing caesarean section.<sup>9-10</sup> Based on a meta-analysis of 95 randomised controlled trials, enrolling over 15,000 women, the administration of prophylactic antibiotics has been estimated to reduce the risk of infectious complications after caesarean section by 60-70%.<sup>9</sup> Forceps or vacuum for operative vaginal delivery (OVD) are used in 12.6-13.1% of deliveries in the United Kingdom<sup>11</sup> and are also associated with an increased risk of infection.

The use of instruments can introduce micro-organisms into the genital tract, leading to endometritis and more severe ascending infection. Furthermore, OVD often follows a longer labour, and is also associated with multiple vaginal examinations and bladder catheterisation which provide additional routes for infection.<sup>12</sup> The increased risk of vaginal lacerations, and the use of episiotomy during delivery, alongside the challenge of maintaining a clean environment with perineal wounds can create further potential entry routes for micro-organisms.

## II. Case Report

A 29 year old lady (G2P1L1A1) presented with lower abdominal pain since a week with high grade fever and white discharge per vaginam. She had history of suction and evacuation done in local rural clinic one week ago for abortion. Followed by which she developed lower abdominal pain and fever with chills & rigor with few episodes of vomiting. On examination, lower abdomen was distended, there was tenderness in lower abdomen with redness. Further routine blood investigations were done which revealed high leucocyte count

which was 14400/mm<sup>3</sup>, all other tests were grossly normal. On USG it showed collection in uterine walls suggesting infective foci. Initially resuscitation was done and IV antibiotics were started. The patient was then planned for exploratory laparotomy. Intraoperative findings revealed gangrene of uterine walls suggesting necrotising lesion (as shown in the figure 1 & 2). Following which hysterectomy was done with placement of drain in pelvic region. Patient was given antibiotic support. Patient was discharged after ten days when she was clinically and vitally stable. On follow-up she was fine with no complains.



Figure 1



Figure 2

### III. Discussion

NF is a rare, rapidly progressive and frequently fatal condition in obstetric and gynaecological practice.<sup>13-19</sup> Failure to make an early diagnosis and delay initiating appropriate treatment may result in significant morbidity and mortality.<sup>17,20</sup> The underlying pathogenic processes involve production of destructive enzymes and toxins by bacteria, resulting in rapid tissue necrosis and spread of bacteria. Majority of cases result from polymicrobial infections with a mixture of Gram-positive, Gram-negative, aerobic and anaerobic bacteria. In an analysis of wound cultures, a single organism, multiple organisms and no organism found at the percentages of 53%, 23% and 23%, respectively.<sup>21</sup> Regarding monomicrobial infections, *Streptococcus* spp. (especially group A), *S. aureus*, *V. vulnificus*, *A. hydrophila*, Enterobacteriaceae (*E. coli*, *Pseudomonas* spp., *Klebsiella* spp. and *Enterococcus* spp.), *Clostridium perfringens* and anaerobic streptococcus are common.<sup>22</sup> However, to our knowledge this is the first reported case of NF caused by *Enterococcus* spp. following caesarean delivery.

The aetiology of NF is not fully apprehended, and sometimes no individual factor can be found.<sup>23</sup> Diabetes mellitus, age over 50 years, peripheral vascular disease, surgery, muscle injuries, drug use and immunosuppression are the most common factors and associated with even greater morbidity and a higher mortality.<sup>20,24</sup> In our case instrumentation i.e. Suction and evacuation done at local rural clinic may have been aetiological factor, which might have led to the infective foci causing the necrotising fasciitis of uterus.

NF is difficult to diagnose in the early stage because of nonspecific signs such as tenderness, swelling, erythema, and pain at the affected site that mimic less severe soft tissue infection.<sup>22</sup> Severe pain and systemic toxicity should raise the suspicion of NF in advanced patients.<sup>23</sup> Radiologic studies are only considered as adjunct measures for doubtful cases and cannot be used to exclude NF.<sup>25</sup> A gas on plain was revealed only in 35% of radiographic studies.<sup>26</sup>

### IV. Conclusion

NF is a surgical emergency requiring prompt surgical exploration and administration of intravenous broad-spectrum antibiotics.<sup>16,20,23</sup> Surgical aggressive and extensive debridement is the mainstay of treatment. The uterus is rarely involved in NF but, the abdominal wall, rectus sheath, omentum and limbs are common site

of NF. If uterus is involved, hysterectomy is required for extensive treatment, however in some cases preservation of uterus has been reported.<sup>27,28</sup>

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