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RESEARCH ARTICLE

NECROTIZING FASCIITIS POST CESAREAN SECTION: CASE REPORT AND LITERATURE REVIEW

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ABSTRACT

Necrotizing Fasciitis is essentially a severe inflammation of the muscle sheath that leads to necrosis of the subcutaneous tissue and adjacent fascia. The necrotizing fasciitis is a rare complication in obstetrics but when it occurs, it frequently presents as a fulminating disease. It is characterized clinically by fulminant tissue destruction, systemic signs of toxicity, and high mortality. Accurate diagnosis and appropriate treatment must include early surgical intervention and antibiotic therapy. We report a 22 years old female patient Gravida 1 Para 1, 1 living child, without pathological history, sub-saharian, admitted in emergency for suspicion of peritonitis on 4th day post cesarean section, to which necrotizing fasciitis was diagnosed. After resuscitation, the surgical debridement was done and the patient received the antibiotherapy, but the patient died in septic choc.

INTRODUCTION

Necrotizing Fasciitis is a necrotizing soft tissue infection involving the fascia and subcutaneous tissue that can cause rapid local tissue necrosis and life-threatening severe sepsis (O' Loughlin RE *et al*. 2007). Necrotizing fasciitis is an infection of the deeper tissues that results in progressive destruction of the muscle fascia and overlying subcutaneous fat; muscle tissue is frequently spared because of its generous blood supply. Infection typically spreads along the muscle fascia due to its relatively poor blood supply; initially, the overlying tissue can appear unaffected. It is this feature that makes necrotizing fasciitis difficult to diagnose without surgical intervention (DeMuro *et al* 2012). The condition is difficult to diagnose early and even more difficult to manage effectively (De Tullio D. 2010, Decamps 1992).

The significant difference is closely linked to early recognition and expeditious initial excision and debridement of the infected tissues along with appropriate antimicrobials. Understanding the history and unique characteristics of the disease is crucial to achieve early recognition, effective management and a favorable outcome (Machado 2011).

Case Presentation

It is a 22 years old, female patient, sub-saharian, Gravida 1 Para 1, 1 living child; No pathological history, on day 4 post cesarean section. The cesarean was done for fetal distress. The patient was admitted for suspicion of peritonitis post cesarean section. The symptomatology started on day four post cesarean section by fever, abdominal distension; arrested gas and stool; reduced level of conscience. On admission, vital Signs were: Temperature 38.5^0 Celsius degree, Blood Pressure: 110/58 mm Hg; pulse 122 beats per minutes, Oxygen saturation was 99 percent under oxygen mask, and 96 percent in room air. Respiratory rate: 34 cycles per minute. On Physical examination, Glasgow Coma Scare was 10/15, pupils reactive to light, with facial mask and nasogastric tube with chocolate fluid of almost 800c. Conjunctiva well colored with dry buccal mucosal. The neck was soft; no lymph nodes. Thorax was symmetric; Tachypnea and noisy breathing; lungs with ronchi; no crackles; with reverse respiratory movement. S1 and S2 regular tachycardia no added sound. On abdominal examination, it was distended and soft above umbilicus, tympanic below umbilicus; guarding with rebound tenderness. There was Pfannesntiel incision and wound discharge pus like,

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with skin which was necrotized around incision. On vaginal digital examination: Foul-smelling vaginal discharge chocolate like. There was a Foley catheter in place draining 300cc concentrated urine, no lower limb edema and reflexes were present. The conclusion was septic shock secondary to necrotizing fasciitis, to rule out peritonitis, endometritis, and malaria. As a plan; the patient was resuscitated with Intravenous fluids 3 litles bolus of crystalloids, and continue with IV Fluid 100cc/h. She was put on oxygen, and laboratory exams were requested: Full blood count, Blood group, Blood smear for malaria, Glycemia, renal function, liver function, Na+; Cl+; K+. The patient was put on ceftriaxon 1 gram intravenous twice a day , flagyl 500 mg twice a day, and tramadol 100 mg twice a day. After stabilization, and lab results with: White Blood cells at 26.3, Hemoglobin at 11.3 g/dl, Platelets 148 000/mm3, blood group A positive, HIV Negative. Laparotomy was done and on findings: Necrotized Skin, subcutaneous fat and fascia, uterus safe with normal hysterorraphy, pus collection in abdomen of 100cc, distended colic and stomach. As a plan: Abdomen washout, and debride necrotizing fasciitis and the skin and then the abdomen was closed with Bogotá bag. (Fig 1) The patient was admitted in intensive care unit. After 3 hours, the blood pressure was 48/30 mm Hg; Pouls was 206 beat per min in few minutes the blood pressure was unrecordable even resuscitation she got cardiac arrest. As final diagnosis, it was concluded on necrotizing fasciitis complicated with septic choc.

DISCUSSION

Necrotizing fasciitis is a rare, but often fatal, condition in obstetric and gynecological practice. The disease is characterized by the pathognomonic association of rapidly progressing necrosis and edema of subcutaneous fat and adjacent fascia, extensive undermining of the skin but sparing of the muscle by the initial process. The source of the infection is variable but often after trauma or in postoperative. (P. M. VAN AMMERS *et al* 1991). Although necrotizing fasciitis is a rare finding, some cases are reported in the literature, and the entity is well known in obstetrics because of increased mortality associated with pelvic infections (Anaya *et al* 2007, Stevens DL *et al* 2014). Various risk factors including age, diabetes, prior radiation therapy, immunosuppression, atherosclerosis, obesity, alcoholism, malignancy, and renal disease. The obstetric population generally is not impacted by these comorbid conditions, but pregnant women who do have these conditions are at particular risk. (Bark dull & Wittich 2004; Anaya DA, Dellinger EP, 2007).

There are an estimated 3.5 cases of invasive group A streptococcus infections per 100,000 persons in the United States; necrotizing infections make up approximately 6 percent of these cases (O'Loughlin RE, 2007). There are two forms of necrotizing fasciitis which are described in literature. Type I necrotizing fasciitis is a mixed infection caused by aerobic and anaerobic bacteria. Risk factors include diabetes, peripheral vascular disease, immune compromise, and recent surgery, including minor procedures such as circumcision in newborn infants. (Mathieu D 1995; Machado, 2011). *Type II* necrotizing fasciitis due to group A streptococcus (GAS) either alone or in combination with other species, most commonly S. aureus. It can occur among healthy individuals with no past medical history, in any age group. Predisposing factors include a history of skin injury, such as laceration or burn, blunt trauma, recent surgery, childbirth, injection drug use, and varicella infection (chickenpox). In cases with no clear portal of entry, the pathogenesis of infection likely consists of hematogenous translocation of GAS from the throat (asymptomatic or symptomatic pharyngitis) to a site of blunt trauma or muscle strain. As Clinical manifestations; the early recognition of necrotizing infection is critical; rapid progression to extensive destruction can occur, leading to systemic toxicity, limb loss, and/or death. (Pryor *et al*, 2001, Barkdull & Wittich, 2004). It is important to consider necrotizing involvement of the muscle or fascia in the setting of fever, toxicity and severe pain, rapid progression of clinical manifestations, and elevated serum creatine kinase (CK) level. Laboratory studies and blood cultures should be sent as outlined in the following sections. The diagnosis of necrotizing fasciitis is established surgically, with visualization of fascia planes and muscle tissue in the operating room. Laboratory findings are generally nonspecific. Abnormalities may include leukocytosis, coagulopathy, and elevations in the serum creatine kinase (CK), lactate, and creatinine concentrations. These findings, together with the clinical findings described above, should prompt surgical exploration. For the diagnosis, the surgical exploration is the only way to definitively establish the diagnosis of necrotizing infection and distinguish it from other entities. The treatment of necrotizing infection consists of early and aggressive surgical exploration and debridement of necrotic tissue, broad spectrum empiric antibiotic therapy and hemodynamic support. The surgery is indicated in the setting of severe pain, toxicity, fever, and elevated serum creatine kinase (CK) level, with or without radiographic evidence of fasciitis. (Stevens DL, 2014; Jamal N, Teach SJ, 2011) The use of antibiotic therapy without debridement is associated with a mortality rate approaching 100 percent. Hemodynamic instability may require aggressive supportive care with fluids and vasopressor.

Patient with fasciitis necrotizing post cesarean section after debridement

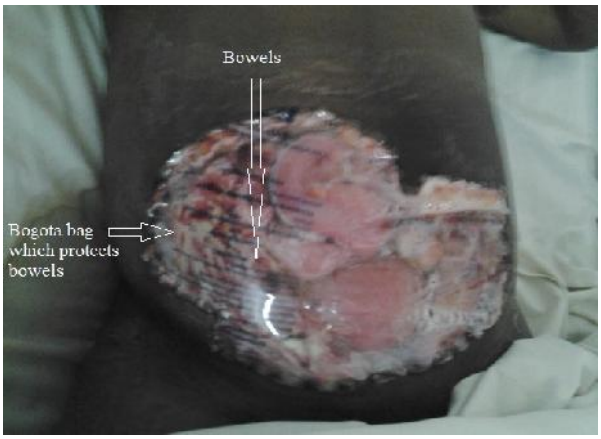

Fig1 The Patient with necrotizing fasciitis post cesarean section after debridement of necrotized tissues, there is a Bogotá bag in place to protect bowels.

The empiric treatment of necrotizing infection should consist of broad-spectrum antimicrobial therapy, including activity against gram-positive, gram-negative, and anaerobic

organisms; special consideration for group A streptococcus and Clostridium species should be taken. Acceptable regimens include administration of a carbapenem or beta-lactam/beta-lactamase inhibitor, together with clindamycin. The outcome, necrotizing infection is associated with considerable mortality, even with optimal therapy. (Descamps V, 1994; Stevens DL, 1995; Stevens DL *et al* 1995) The mortality rates in different studies have included 21% in type I necrotizing fasciitis 14% to 34% in type II necrotizing fasciitis (in which streptococcal toxic shock syndrome is commonly associated with mortality) 22 % in patients with cervical necrotizing fasciitis and 22% to 40 % in patients with Fournier's gangrene. (O'Loughlin RE, 2007; Anaya DA, Dellinger EP, 2007).

CONCLUSION

Necrotizing fasciitis a rare but potentially lethal, rapidly progressive, soft-tissue infection, although uncommon, has a highly virulent course and significant mortality rate. Postpartum women seldom have risk factors commonly associated with the disease, but its course is more aggressive in obstetric patients because of their immunosuppressed status. Management centers on early identification, mainly by clinical examination, and wide excisional debridement of the affected tissue. The empiric treatment of necrotizing infection consists on broad-spectrum antimicrobial therapy, including activity against gram-positive, gram-negative, and anaerobic organisms; special consideration for group A streptococcus and Clostridium species should be taken.

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References

1. 2 JP, Piotrowski E, Seltzer CW, Gracias VH. Early diagnosis of retroperitoneal necrotizing fasciitis. Crit Care Med 2001, 29:1071–3.
2. Anaya DA, Dellinger EP. Necrotizing soft-tissue infection: diagnosis and management. Clin Infect Dis 2007, 44:705.
3. Barkdull & Wittich : Necrotizing Fasciitis. Hospital Physician June 2004 pp. 47–50
4. bers HF, *et al*. Practice guidelines for the diagnosis and management of skin and soft tissue infections: 2014 update by the infectious diseases society of America. Clin Infect Dis 2014, 59:147.
5. Bisno AL, Stevens DL. Streptococcal infections of skin and soft tissues. N Engl J Med 1996, 334:240.
6. De Tullio D, Rossi C, Bolzon S, Scagliarini L, Occhionorelli S. Necrotizing fasciitis:a surgical emergency. Updates Surg 2010, 62:83-87.
7. DeMuro J, Hanna A, Chalas E, Cunha B. Polymicrobial abdominal wall necrotizing fasciitis after cesarean section. *J Surg Case Rep*. 2012 Sep 1, 2012(9):10
8. Descamps V, Aitken J, Lee MG. Hippocrates on necrotizing fasciitis. Lancet 1994, 344:556.
9. Jamal N, Teach SJ. Necrotizing fasciitis. Pediatr Emerg Care 2011, 27:1195.
10. Machado NO. Necrotizing fasciitis: The importance of early diagnosis, prompt surgical debridement and adjuvant therapy. North Am J Med Sci 2011, 3: 107-118.
11. Mathieu D, Neviere R, Teillon C, *et al*. Cervical necrotizing fasciitis: clinical manifestations and management. Clin Infect Dis 1995, 21:51.
12. O'Loughlin RE, Roberson A, Cieslak PR, *et al*. The epidemiology of invasive group A streptococcal infection and potential vaccine implications: United States, 2000-2004. Clin Infect Dis 2007, 45:853.
13. P. M. VAN AMMERS, P. J. MOORE, H. SACHO Necrotising fasciitis after caesarean section - association with non-steroidal ,anti-inflammatory drugs. SAfrMed *J* 1991; 80: *203-204.*
14. Stevens DL, Bryant AE, Hackett SP. Antibiotic effects on bacterial viability, toxin production, and host response. Clin Infect Dis 1995, 20 Suppl 2:S154.
15. Stevens DL. Streptococcal toxic-shock syndrome: spectrum of disease, pathogenesis, and new concepts in treatment. Emerg Infect Dis 1995, 1:69.

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