



Surgery

A RARE CASE REPORT OF ABDOMINAL WALL NECROTIZING FASCIITIS DUE TO TIGHT CLOTHING.

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ABSTRACT Abdominal wall necrotizing fasciitis is a surgical emergency where deepest layers of skin and subcutaneous tissues are involved, generally a complication due to perforated viscus, fistula, post intraabdominal surgeries. Here is one rare case where because of tight clothing, bed ridden status, T2DM and poor personal hygiene, patient had abdominal wall necrotizing fasciitis. In our case tight compression due to the saree caused pressure necrosis, lymphatic blockage lead to bacterial proliferation, and immunocompromised status due to diabetes lead to aggressive necrosis of all fat planes.

KEYWORDS : Necrotizing fasciitis, tight clothing, tummy tucking.

INTRODUCTION- Necrotizing fasciitis, also known as flesh-eating disease, is a rare infection of the deeper layers of skin and subcutaneous tissues, and easily spreads across the fascial plane within those tissues. As bacterial toxins and the immune response cause vasoconstriction of the vasculature, the fascial spaces become avascular resulting in necrosis, which also prevents penetration of antibiotics into the tissues.¹ Common causes are Group A streptococcus (GAS) (*Streptococcus pyogenes*), *Staphylococcus aureus*, *Vibrio vulnificus*, *Clostridium perfringens*, and *Bacteroides fragilis*. Mortality ranges from 4.2 to 38% with improving prognosis as time to treatment decreases.²

Soft tissue infections due to gram-negative organisms are relatively uncommon, and typical predisposing factors include: a history of trauma, alcoholism, peripheral vascular disease, systemic lupus erythematosus, immunosuppression, diabetes mellitus, urinary tract infection (UTI), bacteremia, pneumonia, infective arthritis, burns, and renal failure.^{3,4} Other predisposing factors include: antibiotic use (most often first generation cephalosporins), steroid use, surgical instrumentation, urinary catheters, respiratory equipment, intravenous lines, injections, lacerations, abscesses, or ulcers.⁵

CASE REPORT- 82year old obese female with T2DM since 40 years bedridden due to stroke 15 years back with no history of abdominal surgeries in the recent past, presented to the casualty with foul smelling discharge from the abdomen with cold clammy extremities with BP 86/60mmhg. Patient had a transverse blackish necrotic band along the line of the saree mark with active pus discharge from one side. Patient had very poor personal hygiene. On investigations GRBS- 586mg/dl and urine ketones positive, with elevated total leucocyte count of 24368. On Cect abdomen no intra abdominal pathology was found.

CECT ABDOMEN- showed necrotic abdominal wall with necrotic foci measuring 34*18*9cm involving the skin, subcutaneous tissue and the fat planes with multiple pus pockets, rectus intact. No intra-abdominal foci of infection was found.



Fig2- Wound status after 26 days of serial debridement



Fig1- Post debridement wound status



Fig3- Wound status on Postoperative day 12 after Smead Jones repair.

LABORATORY INVESTIGATIONS - ON ADMISSION

Hb- 8g/dl

Tlc- 24368cells/cumm

Grbs- 586mg/dl

Urine Ketones- Positive.

Pus Culture and Sensitivity- Methicillin resistant staphylococcus aureus.

TREATMENT

Intensive management of septic shock and diabetic ketoacidosis was done. Within 12 hours of admission patient was taken for debridement, intraoperatively only fat planes were involved, rectus was intact. Around 350 ml of foul smelling pus was removed with necrotic debris. Patient underwent serial debridement for 26 days. After formation of healthy granulation tissue and management of diabetes; patient was taken for secondary suturing.

Because of huge cavity and gaping Smead-Jones type of suturing was done and negative suction drain was placed and patient improved postoperatively and sutures were removed on day 12.

DISCUSSION- Necrotizing fasciitis is a deep infection of the subcutaneous tissue that results in progressive destruction of fascia and fat. The disease is classified as type I (polymicrobial infection), type II (monomicrobial) and type III gas gangrene, or clostridial myonecrosis. Type I infection involves anaerobic species in combination with one or more facultative anaerobic streptococci (other than group A) and members of the Enterobacteriaceae family. Type II infection is commonly caused by group A streptococci or other beta-hemolytic streptococci that are isolated alone or in combination with other species, most frequently *S. aureus*. These infections are also commonly referred as flesh eating infection. Among those with necrotizing fasciitis, the affected area is typically erythematous, swollen, warm, and exquisitely tender. The infection progresses rapidly over several days, with changes in skin color from red-purple to patches of blue-gray. Skin breakdown with bullae (containing thick pink or purple fluid) and frank cutaneous gangrene may be observed within three to five days.⁶

CONCLUSION- Thus aggressive early intervention and surgery reduced mortality. Generally abdominal wall necrotizing fasciitis is associated with intraabdominal surgery or with any intraabdominal pathology like perforated viscus or fistula. Here is one rare case where because of tight clothing and T2DM and poor personal hygiene, patient had abdominal wall necrotizing fasciitis. In our case tight compression due to the saree caused pressure necrosis, as the patient was bed ridden; lymphatic blockage lead to bacterial proliferation, patient was diabetic which lead to aggressive necrosis of all fat planes. Smead jones is an excellent technique for defect closure when defect is more than 10 cm. Patient had corrugated rubber drains which prevented seroma formation and patient didn't develop any wound infection. Thus such cases are rare but possibility of abdominal wall necrotising fasciitis is there when tight clothing is advised in post liposuction or tummy tucking cases.

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