

# Necrotizing Fasciitis of the Breast with Shock and Postpartum Psychosis

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## ABSTRACT

Necrotizing fasciitis (NF) is a rapidly progressive infection of skin and subcutaneous tissue with high morbidity. NF is frequently found with trauma, bites, surgery, IV drug abuse, diabetes and immune compromised patients. . NF involving the breast is not

common. Delay in differentiating NF from puerperal mastitis leads to increased morbidity or loss of breast tissue to variable extent. We report a case of NF of the breast in shock with postpartum psychosis necessitating mastectomy.

**Key Words:** Necrotizing fasciitis, Breast, Postpartum psychosis

## INTRODUCTION

Puerperal breast infections encompass mastitis, abscess, and rarely necrotizing fasciitis [1]. Early diagnosis and appropriate intervention are vital for preservation of breast tissue. However, in rural India, women seeking care late is the rule rather than the exception as they first resort to local remedies and present with advanced infection. Hence breast abscesses are commonly encountered in clinical practice. A much rarer clinical entity is Necrotizing Fasciitis of the breast. It has been reported after various primary triggering factors like needle biopsy, surgery, implants, trauma etc. [2] but to our knowledge, it has never been reported after a breast abscess. Delayed diagnosis of NF is associated with increased sepsis, MODS and mortality. We present one such case.

## CASE REPORT

Mrs. X, 20 year old P<sub>2</sub>L<sub>1</sub>, delivered 20 days back at home reported to OPD with complaints of discoloration and purulent discharge from right breast since one week. The baby had died one week after delivery following which she had fever and painful swelling of the right breast. She had taken treatment at a peripheral health facility for the same. She then developed abnormal behaviour for which she was taken to traditional healers. Meanwhile, she developed discoloration and purulent foul smelling discharge from the right breast and was brought to HSK Hospital [Table/Fig-1].

On examination, the patient was drowsy, febrile and pale with a pulse of 100/min. and a B.P. of 96/60 mm of Hg. There was blackish discoloration of skin over the right breast and adjacent chest wall. There was edema of the skin over the back up to the midline [Table/Fig-1]. There were 2 sinuses discharging pus, one at the anterior axillary line and another at the posterior axillary line. Her investigations revealed a Hb of 6.5 gm%, WBC count of 14,600/mm<sup>3</sup>, B. Urea 87 mg/dl, S. Creatinine 1.9 mg/dl, RBS 109 mg/dl, S.Potassium 4.6 meq/l, S.Sodium 133 meq/l and S.Chloride 198 meq/l.

Patient resuscitated with i.v. fluids, inotropes, nasal O<sub>2</sub> inhalation. She was commenced on broad spectrum intravenous antibiotics (piperacillin and tazobactam with metronidazole) and transfused one unit of blood. A diagnosis of Necrotizing Fasciitis was made and the patient was taken up for debridement under general

anaesthesia. Per operatively, the breast tissue was found necrosed and the subcutaneous fat, fascia necrosed with thrombosed veins with foul smelling discharge. Wide resection comprising right mastectomy and excision of all necrotic tissue was done. Wound inspection was done after 48 hours with minor debridement (Table/ Fig 2). Histopathological examination of the specimen confirmed the diagnosis [Table/Fig-3].

Postoperatively, the patient improved with blood transfusions and antibiotics according to the sensitivity report. Once her condition improved, it unmasked her abnormal behaviour. A Psychiatrist's opinion was sought and she was diagnosed to have postpartum psychosis with mania and treatment was started for the same. After 2 weeks, when healthy granulation tissue was noted, split thickness skin grafting was done which took up well. Two months after first admission, the patient visited the OPD for follow up. The patient was doing well and the wound had healed.

## DISCUSSION

The term Necrotizing fasciitis (NF) was coined by Wilson in 1952. Necrotizing soft tissue infection (NSTI) is a rapidly progressive spreading necrotic infection of skin, subcutaneous tissue, fascia and muscle.



**[Table/Fig-1]:** Blackish discoloration of breast and adjacent chest wall



**[Table/Fig-2]:** Appearance of wound 48 hours after debridement

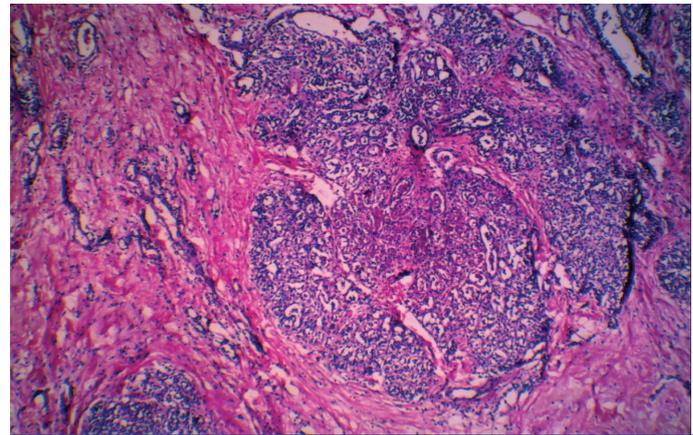
Predisposing factors include history of blunt trauma, varicella (chickenpox), injection drug use, penetrating injury, insect bites, surgical procedures, child birth, burns, DM, peripheral arterial disease, malignancy and immunosuppression [2].

Two types of NF have been described. Type 1 is polymicrobial, commonly gram positive and negative anaerobes and associated with DM, PVD. Type 2 is monomicrobial, commonly being GAS. (10) Giuliano et al showed that 77% of patients had a combination of facultative organisms and anaerobes isolated and that a synergistic action between the two could explain the fulminant course of the disease [4,10].

Early diagnosis is not always possible, because signs such as erythema, tenderness, swelling, and fever accompany other inflammatory states of skin and subcutaneous tissue (e.g., cellulitis). Large haemorrhagic bullae, skin necrosis, sensory deficits & crepitus (hard signs) are all late features [3, 8]. Lack of specific clinical features and characteristics in the early stages of the disease is the main reason for delay in recognition and treatment of NSTI resulting in life threatening sepsis with a mortality of 29% [5,8,10] Various laboratory parameters, scores (LRINC), ultrasonography, tissue O<sub>2</sub> saturation, frozen section study have been proposed to aid in diagnosis [5,6,7] but high clinical suspicion remains the corner stone of early diagnosis. Early diagnosis and aggressive treatment of NF has reduced morbidity and mortality [9, 10].

In these conditions adherence to the following plan may be advocated: [2, 3, and 10]

1. Early surgical referral of patients with atypical cellulites and pain disproportionate to the area of involvement.
2. Prompt resuscitation with intravenous fluids, broad spectrum antibiotics and analgesia. Early involvement of intensive care unit .



**[Table/Fig-3]:** Severe inflammatory infiltrate of breast lobule with necrosis. (H&E Stain, LPF)

3. Diagnostic incision of the affected site to inspect the underlying fascia should be performed at the earliest opportunity, with pus sent for urgent Gram stain and culture.
4. Radical 'pseudotumour' excision of all the involved tissues should be performed immediately.
5. Wound should be inspected under anaesthesia at 48 hours to confirm the adequacy of the excision.
6. Once clearance of devitalised tissue has been achieved, reconstructive measures aimed at skin closure can be commenced.

In this case early diagnosis and treatment would have saved the breast. In such cases lack of awareness and delay in seeking medical care due to socio-economic factors contribute to increased morbidity. The treating physician should be aware of the spectrum of breast infections in the postpartum period.

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