JPRAS Open 6 (2015) 15–19

Contents lists available at ScienceDirect

JPRAS Open

journal homepage: http://www.journals.elsevier.com/jpras-open

Case report

Necrotising fasciitis of the breast: A rare primary case with conservation of the nipple and literature review

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ARTICLE INFO

Article history:
Received 5 February 2015
Accepted 3 May 2015
Available online 10 September 2015

Keywords:
Necrotising
Fasciitis
Breast
Nipple conservation
Primary

ABSTRACT

Necrotising fasciitis (NF) is an infection of soft tissues that rarely affects the breast. It is associated with a high risk of mortality if diagnosed late.

We present a case of primary necrotising fasciitis of the left breast in a 30-year-old woman with no co-morbidities.

The patient initially presented septic with cellulitis and necrotic patches overlying her left breast as well as disproportionate pain. An early diagnosis of NF was made, aided by the LRINEC score (laboratory risk indicator for necrotizing fasciitis).

The combination of this early diagnosis as well as prompt treatment utilising a multidisciplinary approach resulted in the survival of the patient, a less radical surgical debridement and improved cosmesis with the conservation of the nipple–areola complex and the majority of the underlying breast parenchyma.

Introduction

Necrotising fasciitis (NF) is a rare infection of soft tissues associated with significant mortality if intervention is delayed.[1–3] It affects mainly the abdominal wall, perineum and extremities, though uncommonly it can occur anywhere on the body and rarely affects the breast.[1]

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http://dx.doi.org/10.1016/j.jpra.2015.05.002

Here we present a case of primary necrotising fasciitis of the left breast in a young woman with no co-morbidities.

Case report

A 30-year-old woman presented to Accident and Emergency (A&E) with a severely painful, swollen and inflamed left breast. The patient noticed a small scratch like mark in the lower inner quadrant of the left breast 4 days prior to admission. Two days prior to admission the patient developed a dull pain her left axilla that rapidly worsened. In the 24 hours prior to admission, the patient suffered from severe pain, swelling and inflammation of the left breast, marked cellulitis of the left breast as well as developing purple and black patches. An ulcer also appeared superio-medially to the left nipple that discharged clear blood stained fluid. (Figure 1). The patient also complained of nausea and vomiting, fevers, headaches, loss of appetite and lower back pain.

The patient was otherwise fit and well with no significant past medical history and no previous breast surgery. She smoked 10 cigarettes a day since the age of 25 and drinks minimal amounts of alcohol. The patient was allergic to penicillin and was on routine gluteal depot contraceptive injections. The patient had a negative pregnancy test, was not breast-feeding and described no recent trauma to her breast.

Swabs for microbiology were taken from the discharging ulcer. Her initial bloods showed a high white cell count (WCC) of 23.0 $\times$ 10^9/L with a concurrent neutrophillia of 21.7 $\times$ 10^9/L. Her C reactive protein (CRP) was elevated at 167.3 mg/L as was her creatinine at 84 μmol/L. Her lactate was 7.8 mmol/L. HIV serology was negative. The patients LRINEC (laboratory risk indicator for necrotizing fasciitis) score was 8 points.

Due to the disproportionately severe pain, systemic symptoms and overlying colour changes of the skin, as well as a high LRINEC score, primary necrotising fasciitis of the breast was diagnosed and an urgent referral was made to the Breast Surgeons.

In light of her penicillin allergy and on discussion with the Microbiologists, the patient was immediately commenced on IV Gentamicin, IV Clindamycin, IV Teicoplanin and IV Metronidazole. The patient was taken to the operating theatres for an emergency operation within 6 hours of initial presentation to A&E.

Peri-operatively, there was a rising lactate level. Additionally, the patient was tachycardic, hypotensive and pyrexic, requiring both fluid bolus challenges and inotropic support.

Debridement of the overlying inflamed necrotic skin was initially performed which removed the majority of the skin cover for the left breast, leaving the nipple and areola in situ. The remaining portion of breast showed healthy vascularised breast tissue and was thus was conserved (Figure 2).

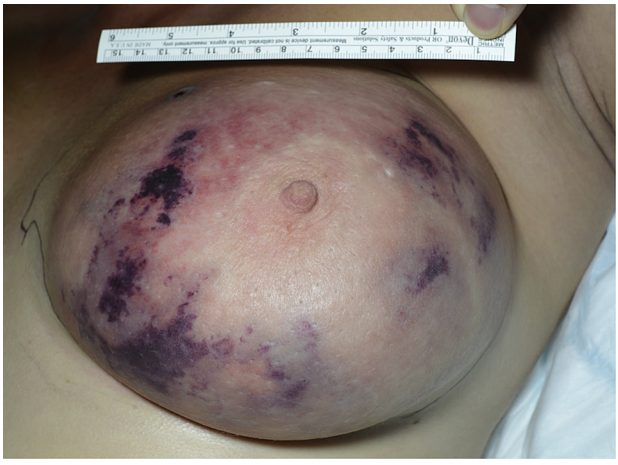

Figure 1. Frontal view of affected left breast with ulcer superior-medially to left nipple. (15 cm ruler for scale).