Case Report

Case of necrotizing fasciitis of breast in a young lactating mother

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Abstract

Introduction: Necrotizing fasciitis is an infection of soft tissues associated with a high risk of mortality. Primary necrotizing fasciitis of breast is an extremely rare condition with very few cases reported in literature.

Case presentation: This case report describes a 19 year old Hindu female with necrotizing fasciitis of left breast. Patient was managed with intravenous antibiotics, early aggressive debridement, daily dressing followed by split thickness skin grafting.

Conclusion: Though necrotizing fasciitis of breast is a rare condition, it should be suspected in a patient with pain and swelling of breast.

Key words: Necrotizing fasciitis, Breast

Introduction

Necrotizing fasciitis is a rapidly spreading progressive infection of the soft tissues up to the fascial plane with necrosis of the subcutaneous tissues [1]. This condition was first defined by Wilson in 1952 [2]. Advanced age, immune suppression, chronic renal failure, peripheral vascular disease, and diabetes mellitus increase the susceptibility to the condition [3]. The sites commonly affected are extremities, scrotum (Fournier's gangrene), abdominal wall (Meleney's ulcer) and perianal region [3].

High index of suspicion is necessary to diagnose this condition. It can be misdiagnosed as inflammatory carcinoma, cellulitis or breast abscess [4]. Treatment is aggressive surgical debridement and broad spectrum antibiotics [5].

Case presentation

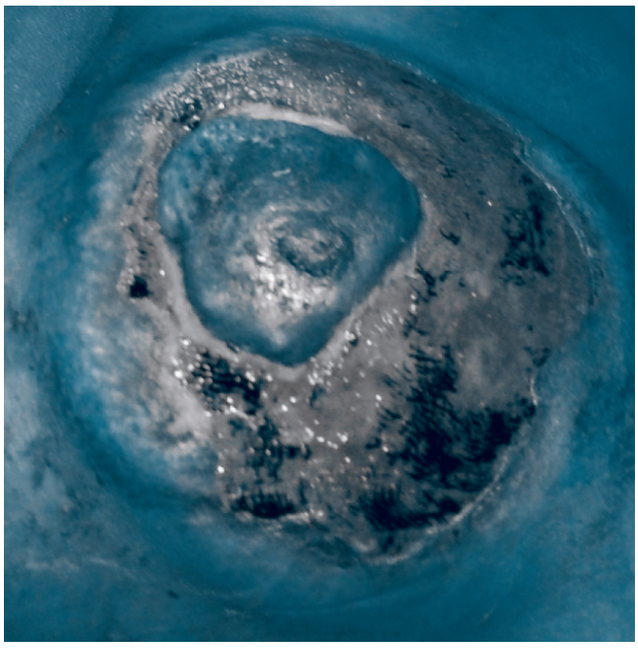
A nineteen year old lactating women from Dang, Western region of Nepal presented to the emergency department with complain of pain and swelling of left breast for 3 days. There was no history of fever, trauma. The patient doesn't have any comorbidities. She is a non smoker and doesn't consume alcohol. Her past medical history is nonsignificant. She doesn't consume any medication. The patient has history of spontaneous vaginal delivery forty five days back. She is currently breast feeding.

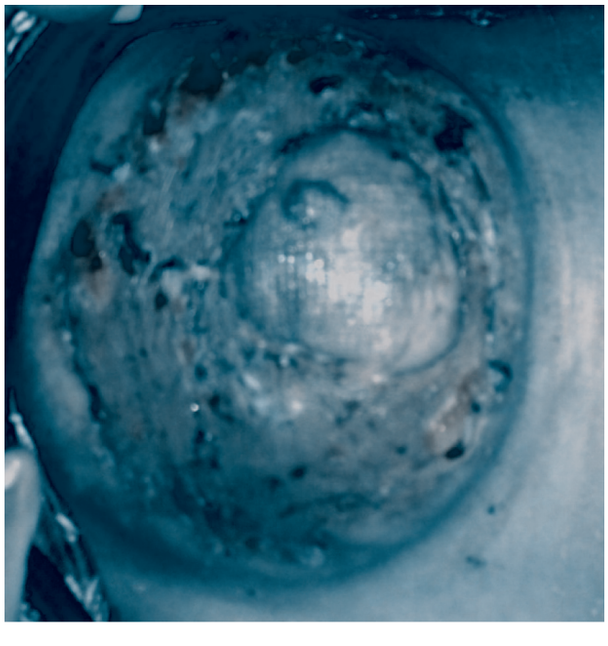
On presentation to the emergency department the patient had fever (temperature, 101° F), tachycardia (heart rate, 110/min). Her respiratory rate and blood pressure were normal. The left breast was swollen with discoloured skin. The nipple-areola complex was normal. Fluctuation was absent. No obvious mass could be palpated. Axilla was normal. Systemic examination was unremarkable.

Laboratory examination revealed leukocytosis (total count 15 X 10^3 /L) with neutrophilia. Renal function test was normal. Wound swab culture grew *Staphylococcus epidermidis* sensitive to doxycycline, vancomycin, piperacillin/tazobactam.

Patient was started on intravenous antibiotics. She was taken to operation theatre and extensive debridement of necrotic skin was done up to the fascial plane [Figure 1]. Nipple areola complex was preserved

as it was not involved. The intraoperative findings were suggestive of necrotizing fasciitis because there was loss of normal resistance of the fascia to finger dissection (positive 'finger' test). Postoperative period was uneventful. Daily dressing was continued. On the tenth postoperative day greenish discharge was observed from the wound. Wound swab culture grew *Pseudomonas aeruginosa* sensitive to ciprofloxacin. Ciprofloxacin was continued for seven days. Repeat wound swab culture following antibiotic treatment was negative. Split thickness skin grafting was done [Figure 2]. The post operative period was uneventful. Dressing was removed on 5th post operative day. Staples were removed on 7th postoperative day.





Discussion

Necrotizing fasciitis is a rare disease with systemic toxicity and high mortality. The mortality rate is directly proportional to the time of intervention [6]. The first case of necrotizing fasciitis of breast was reported by Shah et al. in 2001 [7]. Since then only few cases have been reported in literature.

Yaji et al reported primary necrotizing fasciitis of breast in a 55-year-old postmenopausal diabetic, hypertensive women who presented with septic shock. The patient was managed with resuscitation, intravenous antibiotics and aggressive debridement [1]. Most of the cases that have been reported in past are in older patients. This case report describes the condition in a young lactating mother.

Small trivial wounds, traumas or scratches can cause necrotizing fasciitis. [8] Besides chronic debilitating comorbidities (diabetes mellitus, peripheral vascular disease, smoking, alcohol abuse, liver disease, obesity, and immunosuppression) are other risk factors [9,10]. No such precipitating factors were present in this patient.

Shah et al. recommended a management plan for necrotizing fasciitis of breast in 1999 which include [11]

i. Early surgical referral for patients with disproportionate pain and cellulitis of breast
ii. Exploratory diagnostic incision (with pus sent for culture and gram stain) of the infected site to inspect fascia should be made early
iii. Radical debridement of all involved tissues
iv. Re exploration of the wound under anaesthesia 24 hours post operatively for adequacy of initial debridement
v. Early involvement of plastic surgeons for reconstructive purpose

In this case, this approach was followed with timely diagnosis, debridement and reconstruction.

Mastectomy has been reported to be the main treatment for necrotizing fasciitis of breast in over 90% of cases in the published literature [12]. But with earlier detection, breast salvage is almost always possible. In few cases nipple-areola complex was preserved [13]. Nipple-areola complex can be preserved because the blood supply to the nipple-areola complex (internal thoracic,

lateral thoracic, and posterior intercostal arteries) is separate and travels through the breast parenchyma. Second look surgery at 24-48 hours was not necessary in our patient probably due to complete excision of infected tissues in first setting.

Conclusion

Despite its rarity, this case demonstrated that necrotising fasciitis can affect young healthy individuals in atypical sites such as breast and a combination of early diagnosis and multidisciplinary treatment can help in survival of patient and conservation of both breast parenchyma and nipple-areola complex.

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Conflict of Interest: None declare

Reference

1. Prabhat Yaji, Balachandra Bhat, and Harish E. Primary Necrotising Fasciitis of the Breast: Case Report and Brief Review of Literature. Journal of Clinical and Diagnostic Research: J Clin Diagn Res. 2014 Jul; 8(7)
2. B Wilson. Necrotising fasciitis. Am Surg. 1952; 18:416-31
3. S Hasham, P Matteucci, PR Stanley, NB Hart. Necrotizing fasciitis. BMJ. 2005; 330:830-833
4. Chin-Ho Wong, Tan Bien-Kien. Plastic and Reconstructive Surgery. 2008; 122(5):e151-2
5. Nizami, K Mohiuddin, Mohsin-e-Azam, H Zafar, MA Memon. Necrotizing fasciitis of the breast. Breast J. 2006; 12920:168-69
6. Sarani B, Strong M, Pascual J, Schwab CW. Necrotizing fasciitis: current concepts and review of the literature. J Am Coll Surg. 2009; 208:279-288
7. Shah, AK Sharma, JM O' Donoghue, B Mearns, A Johri, V Thomas. Necrotizing fasciitis of the breast. Br J Plast Surg. 2001;54:47-8
8. M. Cainzos, F. J. Gonzalez-Rodriguez. Necrotizing soft tissue infections. Curr Opin Crit Care, Volume 13, 2007, pp 433-439
9. Salcido RS. Necrotizing fasciitis: reviewing the causes and treatment strategies. Adv Skin Wound Care. 2007; 20:288-293
10. Cho YS, Yang HT, YIm H, Park JM, Kim D, Hur J, et al. Necrotizing fasciitis following a small burn. J Korean Surg Soc. 2010; 79:71-74
11. J. Shah, A.K. Sharma, J. M. O' Donoghue, B. Mearns, A. Johri, V. Thomas. Necrotising fasciitis of the breast. Br J Plastic Surg. Bolume 54. 2001, pp 67-68
12. Angarita FA, Acuna SA, Torregrosa L, Tawii M, Sanchez EF, Heilbron O, et al. Bilateral necrotizing fasciitis of the breast following quadrantectomy. Breast Cancer. 2014; 21:108-114
13. P. V. van Deventer. The blood supply to the nipple-areola complex of the human mammary gland. Aesthetic Plast Surg. Volume 28. 2004. Pp. 393-398