Asian Journal of Pharmaceutical and Health Sciences
www.ajphs.com

Breast gangrene: a rare entity in clinical practice

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ARTICLE HISTORY

Received: 04.04.2017

Accepted: 20.06.2017

Available online: 30.06.2017

Keywords:

Breast, Gangrene, Debridement

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ABSTRACT

Breast gangrene is a rare entity with multifactorial etiology. As some comorbid conditions like diabetes, AIDS, oral contraceptive pills predispose to this case it is very vital for a practitioner to rule out such a life threatening condition to the earliest. Wide debridement followed by broad spectrum antibiotics play a major role in the treatment. Here we are describing about a 36 year old lady suffering from gangrenous breast which was treated in emergency basis after proper evaluation. Simple mastectomy was needed followed by grafting in a second set up.

INTRODUCTION

Breast gangrene occurs rarely and its etiology is variable and multifactorial. There are only few cases of breast gangrene reported in the literature. It can be idiopathic or secondary to some causative agent. Antibiotics and debridement are used for management. This a very rare case of breast gangrene in a 36-year-old nonlactating woman referred from a District head quarter hospital to VIMSAR, BURLA with black discoloration of her left breast since 15 days and 1-day history of difficulty in breathing, high-grade fever associated with chills and rigor. After initial resuscitation, stabilization and thorough examination her right breast was found to be gangrenous. Later, under General anesthesia and appropriate antibiotic coverage, the patient was taken for emergency surgical debridement which ended with left simple mastectomy. She gradually recovered and as the wound developed healthy granulation tissue and wound culture became sterile, grafting of the affected area was carried out. The graft took well following which she was discharged after 45 days of admission.

CASE REPORT

A 36- year-old non lactating female, was admitted to our hospital for development of painful enlargement, and black discoloration of her left breast since 15 days which is associated with fever with chills and rigor for 1 day and difficulty in respiration for 1 day. 15 days back she noticed a small bleb in the upper and medial quadrant of the left breast. The bleb increased in size and ruptured, discharging a serious fluid for which she applied some locally available plant juice. After 1 day she noticed black discoloration gradually involving whole of the breast. She was not a known case of Diabetes Mellitus, Hypertension. On examination the patient was thin body build, pale, toxic look with a temperature of 102° F, pulse of 110/min and blood pressure of 84/60 mm Hg. Local clinical examination revealed gangrene of whole of the left breast including nipple areola complex with a clear line of demarcation between the healthy surrounding skin and gangrenous parts (Figure-1). Small abscess was seen on the upper and medial quadrant of right breast. There was presence of skin excoriation of anterior chest wall. The secretion was sent for culture and sensitivity. Her total leucocyte count 16,000 /mm3, Neutrophilia (N-82), haemoglobin 7.6 gm/dl. Rest of the laboratory study was within normal limit. With a provisional diagnosis of gangrene of the left breast; the patient was resuscitated with intravenous fluid and blood transfusion. Antibiotic was started in the form of Pipercilin & Tazobactum and Metronidazole infusion. After initial resuscitation emergency surgical debridement (Figure-2) revealed extensive necrosis of the skin and breast substance with involvement of retro-mammary space and ended with total mastectomy of left side. The wound was left open for drainage and to facilitate subsequent debridement. The isolated organism from culture was Pseudomonas areginosa and sensitive to Pipercilin-Tazobactum, Amikacin and Cefuroxime. After regular dressing and debridement, the wound developed healthy granulation tissue (Figure-3) and she undergone split thickness skin grafting which took well (Figure-4). The patient was discharged from the hospital 45 days after entering.

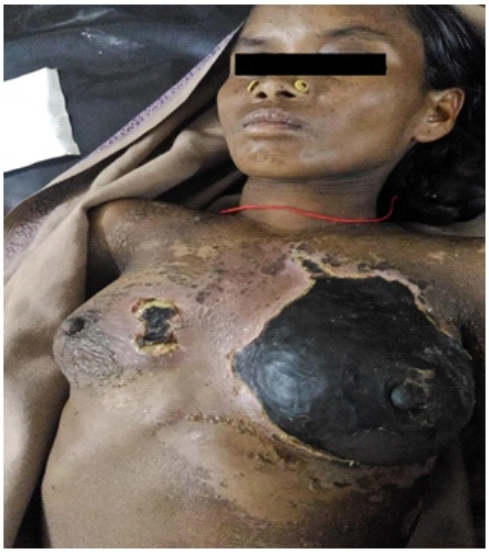

Figure 1

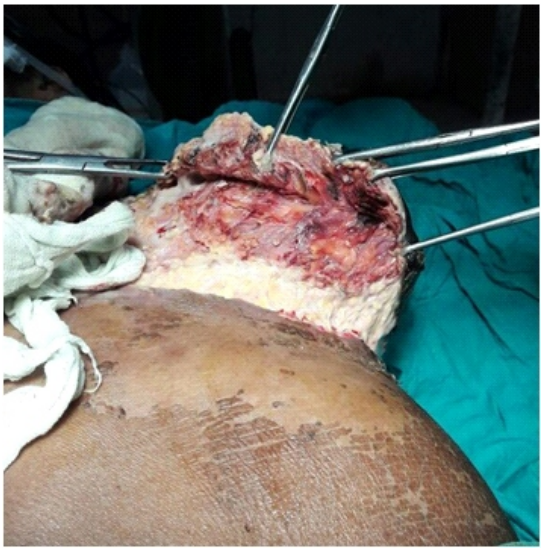

Figure 2

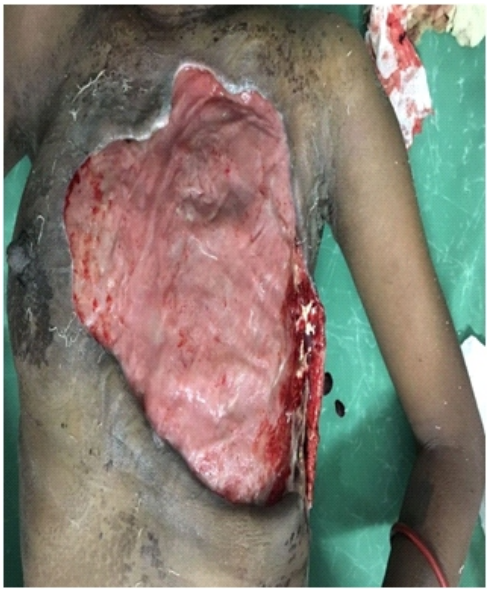

Figure 3

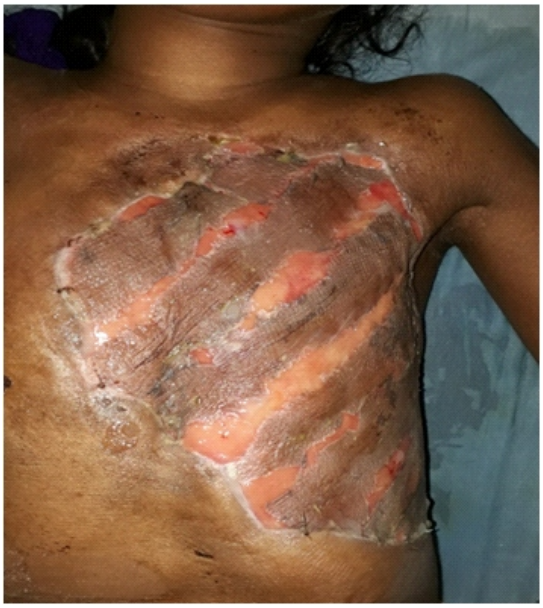

Figure 4

DISCUSSION

Gangrene of breast can be idiopathic or secondary to some causative factor. Breast gangrene is well reported with use of anticoagulant therapy, trauma, thrombophlebitis, puerperal sepsis, pregnancy, lactation, diabetes mellitus, beta hemolytic streptococci infection, or carbon monoxide poisoning are other causes which can incite gangrene of breast Wani et al, in their prospective study in India over 6 years, they reported 10 cases with breast gangrene all were lactating females and with breast abscess, the initiating factors were teeth bite while lactation, iatrogenic trauma by needle aspiration of breast abscesses under unsterilized conditions or Belladonna application as a topical agent [1].

Primary breast gangrene was reported previously in an HIV-positive patient as the first presentation with severe necrotizing infections and ended up with mastectomy [2]. Jody and Sivakumaran reported another case of synergistic gangrene of the breast in a patient with type 2 diabetes [3]. Sameer A, et al, reported a case of right breast gangrene as a complication of puerperal sepsis in a female patient [4]. Khalid reported a typical case of warfarin-induced breast necrosis in a 38-year-old obese Saudi female within one week of initiation of high-dose warfarin therapy[5].

Breast gangrene is considered as Fournier type of gangrene caused by massive fulminating type of infection complicated by obiliterative arteritis. Gangrene of breast is usually a unilateral affection, and rarely can occur in both breasts. Preceding mammary mastitis or breast abscess or without any mastitis, is seen before occurrence of gangrene. Type of necrosis in gangrene of breast is a coagulative necrosis or dry type of necrosis.

In idiopathic form, the initial manifestation is mammary pain with no antecedent history of trauma or infection and patient develops well recognized area of skin which may develop a peau'd orange appearance. A spontaneous occurrence of breast

gangrene of unknown etiology was reported by Cutter in his case of apoplexy of breast [6]. Mixed anaerobic and aerobic florae are often responsible for the infection in gas gangrene of breast [7].

Wide local excision of the gangrenous breast with proper toileting tissue along with broad-spectrum antibiotics followed by reconstructive procedures is the main modality of management. Serial debridements are required in some patients where there is diffuse involvement. Grafting is done where there is large deficit. Sometimes mastectomy is mandatory in extensive involvement. Postoperative complications are likely in patients with necrotizing soft tissue infection including multi-organ dysfunction, myocardial infarction, thrombosis and secondary sources of infection [8].

CONCLUSION

Breast gangrene is a rare entity in the clinical practice which may be idiopathic or may be secondary to some co morbidity. Breast abscess in uncontrolled diabetes can lead to gangrene. Wide surgical debridement with broad spectrum antibiotics is the gold standard of treatment protocol. However, early recognition and treatment are necessary to avoid mortality.

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