

Breast Gangrene Complicating Calcinosis Universalis: A Case Report

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Abstract: This report describes an unusual case of gangrene affecting the breast in a non-lactating geriatric patient with Calcinosis universalis. Emergency left mastectomy was carried out together with parenteral antibiotic cover. To the best of our knowledge, this is the first report in the English literature to occur in patient with Calcinosis universalis. The objective of this case report is to highlight the significance of diagnosing serious soft tissue infections and prompting treatment rapidly.

Keywords: Breast; Calcinosis universalis; Gangrene; Mastectomy

INTRODUCTION

Breast gangrene occurs rarely and its aetiology 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 [1].

CASE REPORT

A 69-year-old female, was admitted to our hospital for rapid development of painful enlargement, and black discoloration of her left breast this is associated with fever for five days. The starting point was a parasternal subcutaneous infection Figures 1 and 2. Her past medical history included hypertension for 23 years and Calcinosis universalis. The patient was in a toxic state on presentation with a temperature of 39°C, pale, pulse of 100/min and blood pressure of 90/60 mm Hg. Local clinical examination revealed a partial gangrene of the left breast with a black dermal area of 15x13 cm involving the nipple-areola complex, and associated with offensive purulent discharge. Small abscess was seen on the other breast as well. Her total leucocyte count 22,000 /mm³, haemoglobin 8 gram/dl, random blood sugar was normal and blood urea was 90 mg/dl. A diagnosis of gangrene of the left breast was made. The patient was resuscitated with fluid and blood transfusion. Antibiotic was started in the form of Cefuroxime and Metronidazole infusion. An emergency left mastectomy was carried out and the infection was found involving the retro-mammary space as well. Approximation of the skin was not attempted as the wound was left open for drainage and to facilitate subsequent debridement. The patient was admitted to the intensive care unit, and she passed 6 hours later, due to myocardial infarction.

DISCUSSION

After exhaustive literature search very few cases were reported with gangrene of the breast, but none was found complicating Calcinosis universalis as our case. Calcinosis universalis is characterized by the deposition of calcium salts in skin, subcutaneous tissue, tendons and muscles. There is no specific treatment, but the use of calcium chelates, and steroids are mentioned [2].

Gangrene of breast can be idiopathic or secondary to some causative factor. 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]. This is not seen in our patient as she is menopausal, but with a focal cause of sepsis.

Primary breast gangrene was reported previously in an HIV-positive patient as the first presentation with severe necrotizing infections and ended up with mastectomy [3]. Jody and Sivakumaran reported another case of synergistic gangrene of the breast in a patient with type 2 diabetes [4]. Sameer A, et al, reported a case of right breast gangrene as a complication of puerperal sepsis in a female patient [5]. 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.



Figure 1: Pre-operative photograph showing gangrenous left breast with surrounding cellulitis and slough skin

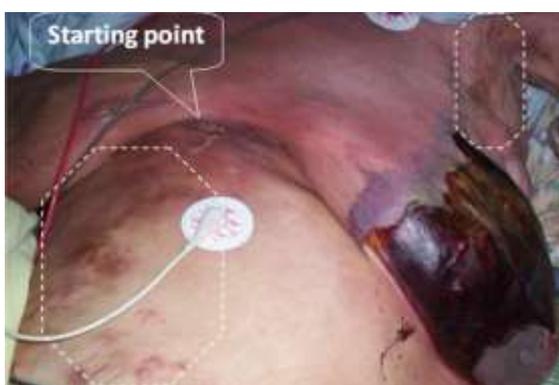


Figure 2: Patient photograph showing the starting point and the areas of Calcinosis inside the dot lines

An urgent surgical debridement revealed extensive necrosis of the skin and breast substance. She ended with total mastectomy [6]. Necrotizing fasciitis of the breast has also been reported as a complication of injection of methylene blue dye for sentinel lymph node biopsy [7].

Acute inflammatory infiltrate, severe necrosis of breast tissue, necrotizing arteritis, and venous thrombosis is observed on histopathology in most of the times [1].

Fruitful surgical outcome is usually expected following efficient surgical intervention in the form of wide local excision of the gangrenous breast with proper excision of all devitalized tissues. Sometimes mastectomy is mandatory in extensive involvement along with broad-spectrum antibiotics followed latter by reconstructive procedures as grafting when the defect is large. If cutaneous closing is possible, a total closing of a residual infected zone should be avoided in order to limit the risk of recurrence. But a loose closing with a system of drainage is recommended to allow for the evacuation of residual infection and facilitate sequential

debridements [1, 8]. This is in agreement with our management as the wound was left opened following mastectomy.

Postoperative complications are likely in patients with necrotizing soft tissue infection including multi-organ dysfunction, myocardial infarction, thrombosis and secondary sources of infection [9]. Our patient succumbed shortly postoperatively; after failure of resuscitation for myocardial infarction and severe systemic inflammatory response. Possibly the delayed presentation had played a major role, as she was being followed for a couple of days in the health center before her referral to our hospital.

In conclusion early recognition and treatment are necessary to avoid mortality.

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