



## Management of Recurrent Idiopathic Male Breast Abscess by Nipple and Areolar Excision: 2 Cases Report

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### Abstract

Recurrent idiopathic male breast abscess is a rare condition, a well definite treatment of this pathology. Most cases harbor an inverted nipple; data reports incision and drainage as the only method for management.

The literature of the following report identifies two recurrent idiopathic male breast abscesses by excision of the nipple and areolar complex and opening of the communication between the nipple and the collection.

The moist area found at the inverted nipple might be responsible as a portal of entry of bacteria toward the sub areolar space where the abscess is formed in most of the cases thus excision of nipple can be a definite solution of this problem.

### Introduction

Despite it being a benign rare pathology, Subareolar abscess of the breast remains a critical cause of morbidity [1]. Patients frequently experience atypical discharge from a painful swollen nipple [2]. Male and female breast are equally susceptible to various pathologies [3]. Gynecomastia remains the most common pathology in males noted by breast clinics [2], whereas 95% of cases presenting with non-puerperal subareolar abscess are women [1]. Multiple pathologic findings were identified in order to explain the etiology of this entity. The first clear mechanism was suggested in 1951 by Zuska et al., who assumed that stasis of secretions, caused dilatation and substantially an inflammation of the Ampulla was the main mechanism behind abscess formation [4]. Blockage of the duct, squamous metaplasia leads to Keratin plugs, and follicular obstruction of pilosebaceous units were all of proposed models to explain this occurrence [1]. Risk factors revealed are malignancy, diabetes, smoking, Vitamin A deficiency, in addition to the lack of previous corticosteroids intake, systemic diseases and immune system deficiencies [1,5]. Breast abscess in males was reported in patients with HIV, duct ectasia and after a Salmonella enteric infection. Moreover, infrequent cases were documented in males with Tuberculosis of the breast and chest wall, brucellosis, and carcinoma of squamous cells [5]. Insufficient cases reported idiopathic etiology of male breast abscess [6,7]. *Staphylococcus aureus* and *Staphylococcus epidermidis* are the organisms most frequently isolated from site of collection [2], with Anaerobes being the predominant colonizers of the abscess after recurrence, leading to a mixed flora [1]. A cycle of antibiotics after incision and drainage was the first option [5,8]. Most of the cases that were followed prospectively report multiple incision and drainage due to recurrence of the abscess and collection [5-7]. The use of preoperative high resolution MRI was used to guide surgical steps and was shown to be effective in reducing recurrence rates and differentiating between benign and malignant lesions [2,9]. Total resection of the abscess and the affected ducts are essential for prevention of recurrence [10], but no definitive treatment is reported in the literature to our knowledge for idiopathic male breast abscess.

Noting that most of the literatures reports inverted nipple in the context of subareolar breast abscess [5]. This note pushed us to hypothesis the presence of sinus track between the inverted nipple and the subareolar collection-abscess.

In this literature two cases of recurrent idiopathic male breast abscess in the subareolar space that were treated definitely by excision of the nipple and areolar complex in addition to an opening of the sinus track between the collection and the complex that was identified during the procedure.

### Cases Presentation

The following case reports two successful managed cases of recurrent idiopathic male breast

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**Table 1:** Demographics of cases at presentation and pathology of the mammary gland after excision.

Case	Gender	Age	Breast side	Health status	Cultures	Nipple	Pathology
1	Male	48	Left	No DM	<i>S. aureus</i>	Retracted	No malignancies
				No steroids			
				No systemic infection			
2	Male	53	Left	No DM	<i>S. aureus</i>	Retracted	No malignancies
				No steroids			
				No systemic infection			

DM: Diabetes Mellitus

abscess. The Table 1 shows the demographic and similarity of their pathology. In both cases the abscess was located in the sub areolar region. To note, none of the patients in the presented in the case study have diabetes, nor were on steroids or had any systemic infection. In a first attempt for management of the condition the abscess was incised and drained. Antibiotics treatment was added to the incision and drainage procedure adequately to the culture. Abscess in both cases recurred at first and second month respectively. In a second attempt, the mammary gland was excised with preservation of the nipple and areola. The failure of the second attempt was identified at the second and third month. In both cases cultures taken during the first and second attempt showed *staphylococcus aureus*. The pathology reports excluded in both cases any malignancies.

Ultimately, both cases were admitted to the clinic with complaint of recurrence of their breast abscess and collection. Remarking a nipple retraction in both cases. Performing a complete excision of the nipple and areola complex due to high suspicion of sinus track between the nipple and the collection.

Undertaking the procedure via local anesthesia; the areola and sub-areolar complex was anesthetized using xylocaine 2% with adrenaline 1%. Methylene blue was injected at the tip of the nipple using a small needle (12Fr). Elliptical incision was made over the nipple and areola (Figure 1a). Dissection was carried up to the fascia of the pectorals major. Identifying and communication sinus track between the nipple and the collection (Figure 1b). Performing an opening of the track as shown in the Figure 1c. A culture was taken from the collection and did an approximation of the tissue and let the wound heal by secondary intention. The specimen was sent to pathology at the end of the procedure. The culture of the collection came back in both cases as *staphylococcus aureus*. In both cases we prescribed Augmentin (Amoxiclav) 1 gram Bid for 7 days. A daily dressing for the wound using iodopovidone and normal saline for cleaning, followed by a wet to dry dressing. Both wound closed completely after 14 and 17 days. In both cases pathology showed absence of malignancies and an inclusion cyst with its sinus track.

Performing a follow up at 6 months and 1 year, no sign of abscess

or collection recurrence was identified. Excising the nipple and the areolar complex could cure that idiopathic male breast abscess.

## Discussion

Diseases of male breast are less frequently encountered when compared to female breast [7]. Gynecomastia remains the most common disorder in male, and the overall of male breast abscess constitute less than 3% of all pathologies of male breast [5]. Most of the male breast abscess is associated with diabetes, and immune status of the patient, which can be altered by the likes of corticosteroids intake, HIV and malignancies [11,12]. The management of recurrent idiopathic male breast abscess is concentrated on the incision and drainage of the abscess and/or long courses of antibiotics, which can go up to 4 weeks.

The cases opted a new management for idiopathic male breast abscess which consists of excision of the nipple and areolar complex. This management was adopted in those two cases because hypothesizing the presence of a portal of entry for the bacterium from the nipple and the presence of a sinus to the sub areolar space where the abscess and collection is formed. Male breast in general secretes minimal amount of viscous fluid, which get reabsorbed, and this is due to a reduction in the differentiation of the lobular and ductal system of male breast [5]. This fact leads to hypothesis that an inverted nipple with this minimal amount of secretions creates a good environment for bacteria to proliferate and enter through the nipple to the sub-areolar space, thus causing the formation of abscess. As per any abscess the ultimate treatment is the excision of the portal of entry and cause of infection. Recurrent idiopathic male breast abscess won't differ from any other abscess thus by excising the nipple and areolar complex the source and the portal of entry of any infectious cause is eliminated leading to complete resolution of the abscess and theoretical potential recurrence of it.

Concluding that a sinus track between the nipple and a sub areolar spaces responsible for recurrent idiopathic male breast abscess. This etiology can effectively be managed by removal of the nipple and areolar space as seen in our cases. The removal of the nipple without



**Figure 1:** a: elliptical incision over the inverted nipple; b: identification of the sinus track; c: line of incision of the sinus track.

the sub areolar space can help in managing this condition because there will be elimination of the portal of entry of the bacterium in theory. This later theory needs further investigation and trials. The removal of nipple and areolar complex needs further investigations in order to implement a solid basis of the path physiology of the disease, needless to mention that image of self, psychology and self-esteem of the patient has to be taken into consideration prior to the removal of the areolar complex and nipple. Thus, thorough discussion of the management has to be done prior to any surgical intervention.

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