ORIGINAL ARTICLE

Lactational Breast Abcess : A Cross Sectional Evaluation of Features and Clinical Interventions

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Abstract:

This is a cross sectional study of 50 cases of breast abscess admitted to Dhaka Medical College Hospital. The aim of this study is to find out the pattern of clinical presentation, microbiological study, and treatment modality. To find out the aetiological factors detailed history was taken. Married woman are the major victims of the barest abscess (98% of the study). Women who had home delivery and suffered from puerperal sepsis are more vulnerable. Poor, malnourished, rural women are major victims. Due to lack of health education it prevails mainly in the illiterate women. Coexisting other infection (UTI, skin infection etc.) acts as risk factor (50% of the study had other infections). Regarding clinical pattern most of the patient presented with painful swelling in the breast with rednessS. induration with or without fluctuation. A small number presents with spontaneous bursting (8%) and discharging sinus (7%). Regional lymph node involvement was not significant, A significant number of nipples were found cracked (35%of the study).Regarding bacteriological study Staphylococcus aureus was the major organism to be isolated(76%of the study) which showed it sensitivity to Flucloxacillin most. In 5 suspected cases biopsy was taken from abscess cavity of which 1 revealed as tubreculous infection.All of the cases were drained under G/A. All of the cases were treated post operatively by antibiotics & dressing except 1 case which needed anti tubercular chemotherapy. Only 4 cases needed secondary closure due to delayed healing

Introduction:

Even in the era of newer and powerful antibiotics, in an underdeveloped country like Bangladesh, infectious diseases still reign. Breast abscess is no exception of this. It is the commonest abscess in female.

Breast abscess is a condition clinically characterized by red, hot indurated and tender mass beneath the skin of breast in early stage and become softer and less painful as suppuration occurs. It is common at post-partum state .But a significant percentage of abscess occurs in non-lactating breast also.

Lactating mothers are the commonest victim of breast abscess. Milk engorgement during lactation period, trauma to breast during suckling of breast by babies, unhygienic conditions all predispose to lactational breast abscess.

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Though national health care delivery system improve a lot in recent years the incidence of breast abscess is still high possibly due to (a) improper health education (b) Reluctance / lack of knowledge about the hygienic condition of the breast (c) indiscriminate use of antibiotics.

Patients with breast abscess often begin as a slightly tender mass[1]. Spontaneous resolution is common but they often progress and associated with reddening of the overlying skin and increasing tenderness until the frank pus form. If the abscess is associated with duct ectasia & periductal mastitis, definitive treatment like duct excision and possible nipple eversion is required, which should be performed under appropriate antibiotic prophylaxis and only when the condition is quiescent[2]. The majority of surgeons leave the wound open to heal spontaneously. Regular dressing is required[3].

But outside the hospital diagnosis is missed or delayed as most of the cases are diagnosed by local quacks or junior doctors who do not know that the induration not fluctuation is the sign of breast abscess. Thus a large percentage of our patients present to hospital with advanced and complicated breast abscess, e.g. antibioma simulating carcinoma, spontaneous bursting, discharging sinus i.e. fistula, extreme fibrosis and disfiguration of breast, inflammatory carcinoma and chronic infection. In addition to that even surgical or spontaneous discharge of an abscess from periductal mastitis may result in a mammary fistula with intermittent discharge of pus or serous fluid on the areola; this may be superimposed on further episodes of periductal sepsis.

During this study period 95 patients were admitted in different surgical units of Dhaka Medical College and Hospital with breast abscess. 50 cases were selected for this study.

In this study of limited cases, attempt was made to explore the clinical presentations, age incidence and whether or not carcinoma/tuberculosis of the breast present with breast abscess.

Breast abscess is a localized collection of pus caused by suppurative inflammation buried in the breast tissue. It is mainly produced by Staphylococcus aureus and Streptococcus pyogenes produce deep seated abscess and diffuse cellulitis into the breast tissues. There are also some uncommon organisms, which may be responsible. Process of breast abscess is initiated by bacterial invasion followed by inflammation and suppuration.

However in course of time the supportive necrosis may destroy large usually local area of breast substance. Surgical drainage and antibiotic therapy may limit the spread of the infection but when extensive necrosis occur, the destroyed breast substance replaced by fibrous scar as a permanent residual of the inflammatory process. Such scarring may create a localized area of increased consistency sometimes accompanied by retraction of the skin or the nipple, changes that may later be mistaken for neoplasm.[26:27] The skin and nipple retracting usually regresses in time as the fibrous scar stretches.[9]

In some cases the infection pursues a sub acute or almost chronic course. The breast is somewhat harder than usual and more or less painful but constitutional symptoms are either lacking or very slight . In such circumstances the first indication of the true diagnosis is often afforded by the detection of fluctuation.[9]

Materials and method:

This is a prospective study of 50 cases who were admitted in different surgical units of Dhaka Medical College Hospital with the clinical feature of breast abscess and underwent emergency surgery. Primarily 95 cases were selected. Finally 50 cases are selected. Rest of the cases discarded for various causes- non availability of investigation, very early discharge of patients etc. Post-menopausal women & non lactating patients were excluded.

Case notes are taken as per structured protocol from patient after taking consent and were the main source of data. Detailed history of the study population was recorded with special attention to their age, occupation, socio-educational status, menstrual status, drug consumption status and the presenting complaints. Relevant important physical findings and investigations were performed in all cases and recorded, After admission, all patients underwent drainage of abscess with broad spectrum antibiotic coverage under general anesthesia. Pus was sent for bacteriological culture and sensitively. Specimen was also collected from the margin of the abscess cavity for histopathological examination in selected cases.

Results:

The total number of cases in this series was 50. The youngest patient of this series was 15 years old and the oldest was 39 years old. Highest incidence of abscess in breast was in the age group of 21 to 25 years, consisting of 20 patients and 40% of the total . Age group of 26-30 was the next common and formed 30% of the total. Age group 36-40 had the lowest incidence of only 4%

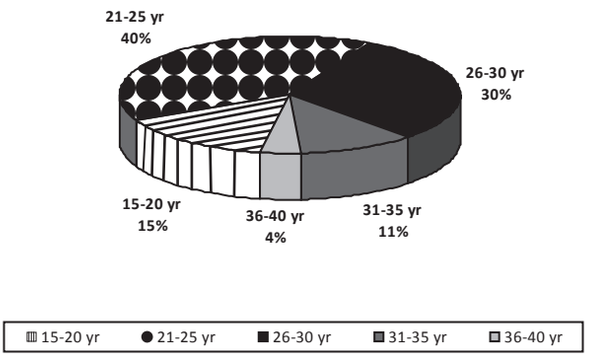

Figure-1 : Age distribution of the patients (n=50)

Marital status of the cases of this series was recorded. Out of 50 cases 49 were married and remaining 1 were unmarried. Socioeconomic condition of the patients of this series were also noted and classified as low (monthly income <3000 taka), middle (monthly income 3000-7000 taka), solvent (monthly income > 7000 taka) 70% patients were came from low socioeconomic status, 26% from middle class. Only 4% were solvent.

Among 50 cases 30 patients are at puerperium, 20 patients are not at puerperium at time of examination. Among 50 lactating mother 10 mothers breastfed babies had some sorts of infection. Total 20 patients give history of bite, scratch by breast fed baby. Total 25 patients had other infection with breast abscess.

Table-I: Presence of other infections with breast abcess (n=50)

Type of Infection	Number of Patients	Percentage
Skin Infection	5	10%
UTI	15	30%
RTI	5	10%
No infection	25	50%

Out of 50 p[atients, 48% came to the hospital about 5-8 days after the appearance of symptoms. Only 4% of cases came to hospital within 96 hours (4 days) after the appearance symptoms. Among 45 patients who take some sorts of treatment outside hospital 4 patients were undergone some sorts of surgical procedure who admitted to hospital due to inadequate drainage. Remaining 41 patients were taking some conservative therapy but condition did not improve.

Out of 50 cases, pus formation were evidenced by indurated painful swelling in 20 cases, 22 cases abscess was presented with fluctuation. 3 patients presented with discharging sinus and 5 patients presented with spontaneous bursting and ulceration.

Table-II: Presenting clinical features with breast abcess (n= 50)

Clinical findings	Number of patients	Percentage
Painful induration without fluctuation	20	40%
Painful swelling with fluctuation	22	44%
Discharging sinus	3	6%
Spontaneous bursting and ulceration	5	10%

Nipple and areola were examined properly. Out of 50 cases 17 patients showed cracking and 1 showed retraction of the nipple. Remaining cases had normal nipple. Staphylococcus aureus is the main culprit of abscess in breast. It accounts to 76% of all cases.

Table-III: Common organisms isolated in breast abcess (n=50)

Organism	Number of patients	Percentage(%)
Staphylococcus aureus	38	76
Streptococcus hemolyticus	1	2
Streptococcus pyogenes	1	2
Pseudomonas	1	2
E. Coli	1	2
No Growth	8	16

Results of sensitivity of staphylococcus to various antibiotics, isolated from the pus shown in the following figure.

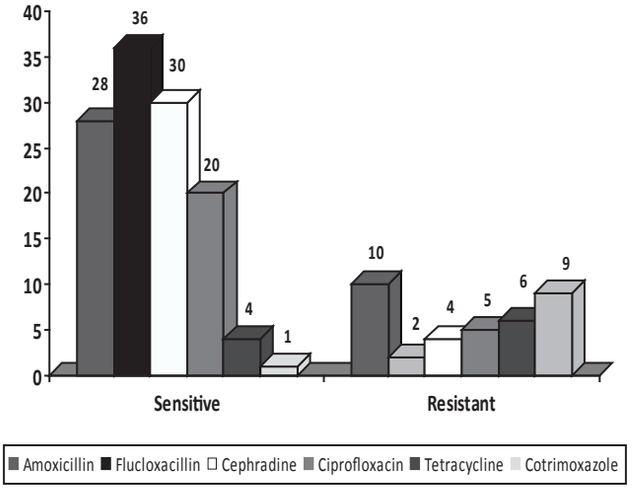

Figure-2: Sensitivity result different antibiotics against Staphylocccus (n=38)

All 50 cases of this study treated by incision and drainage under antibiotics coverage. From 5 cases tissue of abscess cavity was sent for histopathological study.

In this study only 5 patients had some postoperative complications like delayed healing in 4 patients .Formation of multiple sinuses in i patients (Out of 50 patients)

Discussion:

This is a clinical case study of abscess in lactating breast at DMCH. This study tried to identify the etiological factors of iactating breast abscess from different variables hidden in the history and clinical examination. It also attempted to sketch the clinical presentation, bacteriological pattern and treatment of breast abscess.

Infectious diseases are the major burden of underdeveloped countries. Bangladesh is no exception. Like all other major infections breast abscess also commonly victimize poor people. In Bangladesh poor women are the most neglected part of the society. They are lack of health education, hygiene and health care. If they suffer from any disease they are neglected most. Breast abscess has no exception. It is neglected as because poverty, superstition and undue conservatives of society. Mostly it is treated by local quacks. Inappropriate choice of antibiotic, inadequate drainage make it more complicated.

This is a study of 50 cases of lactating breast abscess, where all cases were surgically drained in the hospital. Clinical data, methods and the modalities of treatment, causative organism with there antibiotic sensitivity pattern and other associated pathology of the breast abscess has been observed. Patient of this series were admitted in the different surgical units of

DMCH . Afterward they were operated under G.A. There was no mortality in this series.

Breast abscess is a disease of reproductive age of a woman mostly in their lactation phase. In this series the highest incidence of breast abscess was in the age group of 21-25 years. It is similar to that of other studies.[41'42]

Breast abscess is common in the married women. In this study 98% women are married . Other study shows the similar attern,[41]

Among lactating mothers 60% were at puerperium & significant number were suffering from puerperal sepsis(20%) which is higher than other study.[41'42]40% patient of the study gave history of bite, scratch by the breast fed baby which is similar to other study.[41-42]

Most of the sufferers were housewives (92%). These may be related with ignorance, illiteracy, poor hygiene. Among the patients 70% came from poor socioeconomic status that had also similarity with other studies.[4l' 42] In this study most of the patients came from rural areas (60%).

Most of the patient in this study admitted to hospital late. 48% within 8 days & 34% within12 days of appearing symptoms admitted to hospital. This delay admission is a risk factor.90% patients of the study took 1st treatment outside other than hospital.

It was a common finding of all studies that most patients are illiterate which also reflected in this study (66%). This is a common rule of abscess that it usually occurs to the patients who are malnourished. 1S In my study the most of the patient's nutritional status were poor (70%). This bears a great similarity all over the world.

Coexisting other infection was present among 50% of the women of the study which is higher than other studies. [41/42]

Home delivery of recent pregnancy (50% of the study) considered to be a risk factor which was not considered in other study.[41/42]

In this series, most common presentations were pain, swelling, induration and fever. Presentation with complications (discharging sinus or spontaneous bursting) was less common. Other studies showed almost similar percentage of complications during their presentation. [41' 42] Incidence of regional lymphadenopathy (6%) in this series also reflects the same pattern as in other studies.

Conditions of the nipple were normal in 64 cases and thus does not differ form other studies.

Most common organism encountered was Staphylococcus aureus (76%) which was strongly sensitive to flucloxacillin (96% sensitivity in the study) & most resistant to cotrimoxazole (66.66%).

All the cases were treated by incision and drainage under general anesthesia. Histopathological studies were done in 10% cases, which suspected for malignancy and chronic inflammatory condition like TB. Findings were almost similar to the other study.[41j42]

Regarding treatment outcome spontaneous healing occurs in 90% cases which does not differ form other studies[41'42]

Conclusion:

Locational breast abscess is totally curable. This is preventable as well. Early diagnosis, quick and appropriate referral and surgical intervention can reduce morbidity of breast abscess.

Lack of health education, poverty, malnutrition, lack of hygiene etc. are major risk factors for developing breast abscess several measures can be taken to reduce the incidence of breast abscess. Proper health education regarding breast feeding, care and hygiene of breast, mastitis and breast abscess should be offered to community. Step should be taken for improvement of antenatal, intranatal and postnatal care. Improving nutritional status, literacy rate and encouraging female education should be also given priority.

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