



BACTERIOLOGICAL PROFILE AND ANTIBIOGRAM IN BREAST ABSCESS IN TERTIARY CARE HOSPITAL OF NORTH BIHAR, INDIA

Microbiology

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ABSTRACT

Introduction: Breast abscess is common infection reported in lactating mother but also occurs in non lactating women. It causes underlying disability and increases morbidity and recurrence which is a major concern in these cases. For treatment, knowledge of microbiological spectrum and proper use of antibiogram is necessary.

Material and Methods: The study was performed in SKMCH Muzaffarpur, Bihar from Jan 2018 to December 2019. Pus samples from breast abscess collected and processed for isolation, identification of causative bacterial agent as well as antimicrobial sensitivity test as per standard microbiological protocol.

Result: Out of 90 breast abscess patients, 54 bacteria isolated from the samples. The most commonly microorganism was *Methicillin resistant staphylococcus aureus* followed by *Methicillin sensitive staphylococcus aureus*, *Proteus spp.* and *Pseudomonas aeruginosa*.

Conclusion: *Methicillin resistant staphylococcus aureus* is most commonly pathogenic microorganism causing breast abscess in women in lactational period

KEYWORDS

INTRODUCTION:

Breast abscess is most commonly occurs in lactating mother during lactational period^(1,2). It belongs to low socio-economic status and associated with disease like diabetes mellitus and hiv^(4,5). Its common in both developed and developing country. It mainly affects women who are breastfeeding but also occurs in non lactating women. It increases morbidity and recurrence which is a major concern in these cases⁽⁶⁾. For treatment, knowledge of microbiological spectrum and proper antibiogram is necessary. Patient presents with erythema, swelling and pain⁽⁷⁾. Early diagnosis and treatment is necessary to decrease morbidity and recurrence rate⁽⁸⁾. This study was done to analyse the bacteriological profile of breast abscess & antimicrobial sensitivity pattern of isolates.

AIMS AND OBJECTIVE:

To know the bacteriological profile and antibiotic sensitivity pattern of the isolates.

MATERIAL & METHODS:

Our study was done on female patients with breast abscess attending SKMCH hospital, Muzaffarpur, Bihar for treatment during period of January 2018 to December 2019. Pus sample were collected by incision and drainage of abscess aseptically in sterile test tube^(10,11). Pus sample were examined for direct microscopy by gram's stain and culture on Blood agar and Mac Conkey's agar by standard microbiological protocol. Antibiotic sensitivity pattern of the all bacterial isolates were performed by Kirby -Bauer Disc Diffusion method according to CLSI guidelines⁽⁹⁾.

RESULT:

Out of 90, 54 pus samples were culture positive for pathogenic bacterial isolates. The most commonly bacteria isolated was *Methicillin resistant staphylococcus aureus* followed by *Methicillin sensitive Staphylococcus aureus*, *Proteus spp.* and *Pseudomonas aeruginosa*^(12,13). Antibiotic sensitivity pattern of most common isolate *Methicillin resistance Staphylococcus aureus* was sensitive to Amikacin, Clindamycin, Vancomycin and Linezolid and resistant to Amoxicillin clavulanic acid, Ciprofloxacin and Cefoxitin. Gram negative isolates are sensitive to Amikacin, Piperacillin - tazobactam, Polymixin, Meropenam and resistant amoxicillin, Cefazidim, Ceftriaxone^(13,14,16). Among 54 pus culture positive isolates, 36 isolates are found positive in out of 60 lactating women and 18 isolates are culture positive in out of 30 non lactating women which is found one third of breast abscess patients^(7,8).

Table : Frequency of bacterial isolates

Species	Frequency	Percentage
Methicillin resistant Staphylococcus aureus	35	64.8
Methicillin sensitive Staphylococcus aureus	10	18.5
Pseudomonas aeruginosa	7	12.9
Proteus spp.	2	3.70
Total	54	100

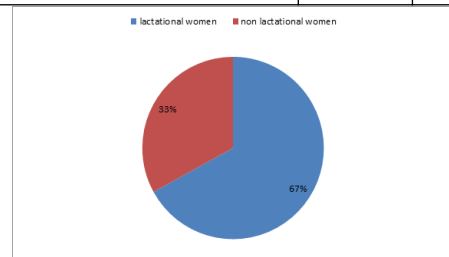


Fig: Pie chart showing distribution of bacterial isolates from breast abscesses amongst Lactational and Non Lactational women.

DISCUSSION:

Breast abscess is common problem in lactational mother. It occurs both in lactating and non lactating group. Reason for occurring more in lactational mother is low socio economic status, poor hygiene and rural back ground. The most common isolates was *Methicillin resistant staphylococcus* in our study, which was mostly occurs in lactating mother which is similar to Ekland et al and Sandhu et al study^(3,17). Antibiotic sensitivity pattern of *Methicillin resistant Staphylococcus aureus* shows that it is sensitive to amikacin, vancomycin and linezolid similar to study of Adhikary et al study⁽¹⁵⁾.

CONCLUSION:

Breast abscess is most commonly due to bacterial infection of *Methicillin resistance staphylococcus aureus*. It mainly occurs during lactational period. Success rate of treatment is improved by timely surgical intervention & proper selection of antibiotic by using standard antibiotic sensitivity protocol for bacterial isolates.

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