ORIGINAL RESEARCH

Diagnostic overview and approach for treating inflammatory benign breast lesions

[1]Dr. B. Siva Sankar Naik, [2]Dr. J. Prasanthi, [3]Dr. D. Nagaraju Naik, [4]Dr. Srihari Babu Gonuguntla

[1]Assistant Professor, General Surgery, Government Medical College, Ananthapuramu, Andhra Pradesh, India
[2] Assistant Professor, Department of Radiotherapy, Government Medical College, Ananthapuramu, Andhra Pradesh, India
[3,4] Assistant Professor, Department of Anaesthesia, Government Medical College, Ananthapuramu, Andhra Pradesh, India

Corresponding Author
Dr. Srihari Babu Gonuguntla
Assistant Professor, Department of Anaesthesia, Government Medical College, Ananthapuramu, Andhra Pradesh, India

Received: 05 Feb, 2021 Accepted: 06 March, 2021

ABSTRACT
Introduction: Benign breast lesions cover a broad spectrum of clinical and pathologic conditions. The aim is to study the inflammatory benign breast lesions and to correlate with fine needle aspiration cytology (FNAC) and management and outcome of benign breast lesions. **Materials and Methods:** Prospective observational study conducted at a tertiary care hospital, Ananthapuramu from October 2020 to March 2021. 100 females with benign inflammatory breast lesions were included in the study. Results were analyzed with SPSS software and the chi-square test. **Results:** Age group affected in the study ranged from 18 to 70 years with average age of 28.68±10.32 years. Most affected age group was 20 to 35 years, upto 69%. Most common benign breast lesion detected was fibroadenoma (75%) followed by mastitis (12%). **Conclusion:** Though typically ignored by females, benign breast lesions cause great suffering to them and can result in breast abscess. Often delayed presentation leads to excision under general anaesthesia, but early presentation and management using FNAC, ultrasonography, and aspiration can prevent the need of incision and drainage, hence reducing the patient's problems and financial load.

Key words: Fibroadenoma, Breast abscess, incision and drainage, aspiration

INTRODUCTION

A diverse range of lesions are included in the category of "benign breast lesions," which can manifest with a variety of symptoms [1]. Noncancerous breast pathology has consistently been overlooked in comparison to breast cancer, despite benign illnesses comprising 90% of clinical presentations associated with the breast [2-3]. Pathologists describe most of the benign epithelial lesions with various terms like fibrocystic disease, mastitis, epithelial hyperplasia, mammary dysplasia and cystic mastitis [4]. Majority of the palpable breast tumors are benign. Accurate knowledge and diagnosis of benign breast lesions is necessary to provide proper management and also to avoid unnecessary duress to the patient.

Ultrasound-guided drainage has been documented in limited studies as a therapeutic approach for breast abscesses, which have conventionally been managed through surgery or, less commonly, punctures without imaging guidance [5-8]. In certain institutions, the conventional therapy continues to be early incision under general anaesthesia coupled with the placement of a drainage catheter [9]. Ultrasound-guided drainage results in minimal scarring, does not impede breastfeeding, and does not necessitate general anaesthesia or hospitalization [7]. It is, in fact, a more economical treatment than surgery [10].

MATERIALS AND METHODS

This was a prospective study carried out in a tertiary care facility in Ananthapuram, Andhra Pradesh, over a duration of six months from October 2020 to March 2021. Patients were thoroughly examined clinically and provisional diagnosis was made. Base line haematological tests were done and confirmatory diagnosis was done using ultrasonography and fine needle aspiration cytology (FNAC).

A total of 100 patients with breast abscesses were included in the study. This study was conducted with

approval from the ethics committee. Informed written consent was taken from all patients.

INCLUSION CRITERIA

All breast abscesses exhibiting characteristics of:

1. Cellulitis.
2. Focal abscess.

EXCLUSION CRITERIA

1. Persistent breast abscess.
2. Malignant breast abscess.
3. Multiloculated abscesses.

Results were analyzed with SPSS software and the chi-square test.

After clinical examination, patients underwent ultrasonography and FNAC. FNAC was performed on all cases in the pathology department using a 23-gauge needle under aseptic precautions.

RESULTS

In our study, highest incidence of 69% cases was found in the age group of 20 to 35 years followed by 24% cases in 36 to 50 years group seen and the average age group affected was 28.68±10.32 years (Table 1). Among the study participants, 43 patients presented with painless lump, 53 with painful swelling and 4 with nipple discharge. Many patients presented with breast lesions in upper outer quadrant i.e. 43%. Our study showed 78 cases with breast abscess measuring >5cm in size. FNAC and ultrasonography detected fibroadenoma as the most common benign breast lesion (75%), followed by mastitis (12%), fibroadenosis (6%), phylloides tumour (3%), duct ectasia (2%), and galactocele (2%) (Table 2). Among the study participants, 56 cases underwent incision and drainage (I&D), 35 cases were treated by aspiration and 9 patients were conservatively managed (Figure 1). Among the aspiration group 22 patients required more than one aspiration. All the study participants were regularly followed up and recurrence of breast abscess was less in I & D group when compared to aspiration group, but outcome was better in patients who underwent aspiration as it was nonscarring. Those who were treated conservatively reported decreased size of lesion during follow up.

Table 1: Age groups affected by benign breast lesions

Age Group	Subjects affected (n)	Percentage (%)
<20 years	1	1
20-35 years	69	69
36-50 years	24	24
51-65 years	4	4
>65 years	2	2
Total	100	100

Table 2: Types of Benign breast lesions

Type of Breast Lesion	Frequency (n)	Percentage (%)
Fibroadenoma	75	75
Mastitis	12	12
Fibroadenosis	6	6
Phylloides Tumour	3	3
Duct ectasia	2	2
Galactocele	2	2
Total	100	100

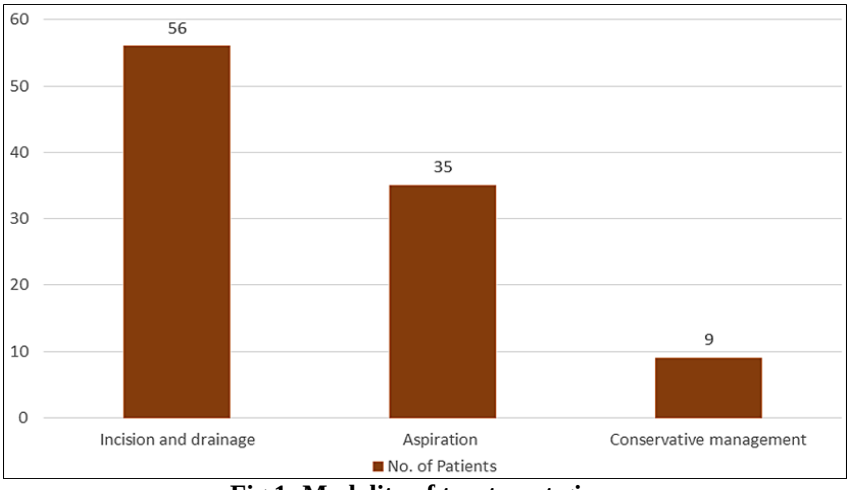

Fig 1: Modality of treatment given

DISCUSSION

Benign lesions can be inflammatory or proliferative and originate from a variety of cell types, like skin, blood vessels, lymph nodes and adipose tissue. All the subjects from our study with benign breast lesions, were evaluated clinically and were investigated by ultrasonography and FNAC to confirm the diagnosis. FNAC being highly sensitive and specific, without the need for an invasive biopsy, FNAC can help confirm a clinical diagnosis. Based on the findings of this study, it is recommended that FNAC be used as a routine method for diagnosing breast lesions because it has a high degree of correlation with histopathological findings.

In the current study, the highest age incidence was 69% of cases recorded in the age group of 20-35 years, followed by 24% of cases in the age group of 36-50 years. Our results are comparable with those of Pandey *et al*. [11] and Pawan Tiwari *et al*. [12]. Pandey *et al*. reported a 45.87% incidence in the 21-30 age range, while Pawan Tiwari *et al*. recorded 72.44% in the 10-30 age group. Fibroadenoma was the most prevalent benign breast lesion in our sample, accounting for 75%. Our results were consistent with those of Shilpa N. *et al*. [13] and Mallikarjuna *et al*. [14] who reported 55.68% and 72% of fibroadenoma cases respectively. In this study, the most prevalent presenting symptoms of benign breast tumors were a painless lump in 43% of cases, a painful lump in 53% of cases, and symptoms of a lump with nipple discharge in 4%. Mima Maychet B. Sangma *et al*. [15] and Sheela N. Kulkarni *et al*. [16] reported findings different to our study. Mima Maychet B. Sangma *et al*. noted that the most prevalent presentation was breast lumps, which accounted for 87 (87%) cases, with only 27 (27%) having concomitant complaints such as breast pain and nipple discharge. Sheela N. Kulkarni *et al*. revealed that 76.66% of cases had breast lumps. Presentation of more cases in our study with painful abscess might be due to lack of awareness among the patients about benign breast lesions. Similar to Ramesh Sagar *et al*. [17] with 36% of cases involving upper outer quadrant, our study revealed 43% breast lumps in that site.

The majority of breast lumps were less than 5 cm in their largest dimension (78%), while 22% had lumps larger than 5 cm. Our investigation was similar to those conducted by Sreedevi CH *et al*. [18] and Akshara Gupta *et al*. [19]. According to Sreedevi CH *et al*., 73.25% of benign breast lesions are smaller than 5cm, whereas 26.74% are larger. Akshara Gupta *et al*. found that the majority of lumps, 76.08%, were 2 to 5 cm in size.

CONCLUSION

This study concludes that the predominant benign breast lesion observed in clinical practice is fibroadenoma. Benign breast lesions predominantly occur in individuals aged 20 to 35 years. The predominant location of involvement is the upper outer quadrant of breast. The most common presentation in patients with benign breast lesions was a lump accompanied by breast pain. Diagnosis can be achieved clinically and corroborated by FNAC in over 90% of instances. Incision and drainage under general anaesthesia constitutes the primary mode of treatment in breast abscess.

CONFLICTS OF INTEREST: Nil.

FINANCIAL SUPPORT: Nil.

REFERENCES

1. Mima B. Maychet Sangma, Kishori Panda, Simon Dasiah. A clinicopathological study on benign breast diseases. Journal of Clinical and Diagnostic Research. 2013; 7: 503-506.
2. Pearlman MD, Mark D. Benign breast disease, Am J Obg and Gynae 2010;116:747-758.
3. Douglas J, Merchant MD. Benign breast disease. Obstetrics and Gynecology. Clinics of North America 2002; 29: 1-2.
4. Rosai, J Ackerman's Surgical Pathology, The Breast. St. Louis: C V Mosby. 9th edition 2004; 1, 1763-1839.
5. Marchant DJ: Inflammation of the breast. Obstet Gynecol Clin North Am. 2002, 29:89-102.
6. Imperiale A, Zandrino F, Calabrese M, Parodi G, Massa T: Abscesses of the breast. US-guided serial percutaneous aspiration and local antibiotic therapy after unsuccessful systemic antibiotic therapy. Acta Radiol. 2001, 42:161-5.
7. Locker AP, Galea MH, Ellis IO, Holliday HW, Elston CW, Blamey RW: Microdochectomy for single-duct discharge from the nipple. Br J Surg. 1988, 75:700-1.
8. Dixon JM: Outpatient treatment of non-lactational breast abscesses. Br J Surg. 1992, 79:56-7.
9. Watt-Boolsen S, Rasmussen NR, Blichert-Toft M: Primary periareolar abscess in the nonlactating breast: Risk of recurrence. Am J Surg. 1987, 153:571-3.
10. Crowe DJ, Helvie MA, Wilson TE: Breast infection. Mammographic and sonographic findings with clinical correlation. Invest Radiol. 1995, 30:582-7.
11. Pandey R, Narang R, Mehra B and Gupta D. Pattern of benign breast diseases: A Neglected Entity. European journal of pharmaceutical and medical research 2016; 3:158-161.
12. Tiwari P and Tiwari M. The current scenario of benign breast diseases in rural India a clinicopathological study. Journal of Evolution of Medical and Dental Sciences 2013; 2:4933-4413.
13. N Shilpa and SH Sridevi. Cytological Correlation of Benign Breast Diseases with Histopathology. jmscr, 2016;04:13256-13259.
14. Mallikarjuna and Maralihalli S. Clinicopathological study of benign breast disease" Indian Journal of Basic and Applied Medical Research 2015; 4:39-46.

15. Maychet M B, Panda K, Dasiah S. A Clinicopathological Study on of Benign Breast Disease. Journal of Clinical and Diagnostic Research. 2013; 7:503-506.
16. Sheela N. Kulkarni, Narsimha V. Kulkarni, Priti k. Clinicopathological Study of Benign Breast Lesions. Sch. J. App. Med. Sci., 2016; 4:4203-4207.
17. Sagar R, Gaddikeri G and Ramakrishna M. Analytical study of pattern and presentation of benign breast diseases in patients between age group 15 to 35 years. International Journal of Biomedical Research 2015; 6:412-415.
18. Sreedevi C. and Pushpalatha K. Correlative study of FNAC and histopathology for breast lesions. Trop J Path Micro 2016; 2:206-211.
19. Gupta A, Gupta A, Goyal R. and Sharma K. A Study of Clinical Profile of Benign Breast Diseases Presenting at a Tertiary Care Centre in Central India". Sch. J. App. Med. Sci. 2015; 3:695-700.