Original Research Article

Study of spectrum and clinical profile of benign breast disease in the rural area: an observational study

Keshav Kumar[1], Rakesh Kumar [2*], Manish Mandal[3], Rakesh Kumar Singh[4], Sanjay Kumar[5]

[1] Senior Resident, Department of General Surgery, Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India.

[2]Senior Resident, Department of General Surgery, Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India.

[3]Professor, Department of G.I Surgery, Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India.

[4]Assistant Professor, Department of G.I Surgery, Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India.

[5]Assistant Professor, Department of G.I Surgery, Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India.

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Abstract

Background: Recent understanding of pathophysiology and health awareness may have impact on spectrum of benign breast disease (BBD) in rural area. We have analyzed clinical data of 200 cases of BBD for spectrum and clinical profile to compare with present studies.**Materials and Methods:** This was a clinical study conducted at Department of General Surgery at **Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India.** which is located in rural area. This study was done during from April 2015 to March 2016. Patients presented with different breast related problems like lump in breast, nipple discharge, associated fever and mastalgia were admitted in surgical ward for evaluation.**Results:** A total of 200 females were included in the study. Fibroadenoma 79(39.5%) and fibroadenosis 49(24.5%) were the commonest diseases, both presenting mostly at 20-30years of age. Left side involvement was most common. The commonest presentation was breast lump which comprised (82%) cases, patients with breast lump 82%, patients with breast pain 36.5% and patients with nipple discharge 3.5%. **Conclusion**: Benign breast diseases are common problems of 2nd and 3rd decade in females and raises considerable fear of malignancy. The patients of BBDs generally present with one or more of these complaints – breast lump, breast pain or nipple discharge. All the patients with discrete breast lumps should undergo a triple assessment to make an early diagnosis.

Key words: Benign breast diseases, Fibroadenoma, Fibrocystic disease, Mastitis.

Introduction

Breasts or mammary glands in the females can be considered as a distinguishing and unique feature of mammals[1]. Its development and growth are under the control of various hormones and various physiological statuses like menstruation, pregnancy, lactation and menopause.

Further, it undergoes several cyclical changes during the reproductive life. Its physiology and histology are influenced by the hormones during puberty menstruation, and menopause. Benign breast diseases (BBDs) are the group of non-cancerous condition which includes a variety of diseases. They are most common cause of breast problems in females and are more frequent than those of malignant[2-7]. In the western countries they are 10 times more common as compared to breast cancer[8]. BBD constitute a heterogeneous group of breast lesions which include developmental abnormalities, inflammatory and granulomatous lesions,

**Correspondence*

Dr. Rakesh Kumar

Senior Resident, Department of General Surgery, Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India

epithelial and stromal proliferations, and benign neoplasms. The patients commonly present with pain, lump or nipple discharge. 30% of the women who suffer from BBDs require treatment at some part of the time during their entire life[9]. In past two decades, there are developments in our understanding of pathophysiology of breast diseases. There is an increase in the public awareness about overall health and breast diseases. Health care systems and infrastructure has also been improved all over India. Rural population, particularly, female suffer from various benign diseases. Recently some of the authors have published their studies of clinical profile of BBD in rural areas. But there are no studies to see whether developments in understanding of BBD have any implications on clinical spectrum and profile of BBD in rural population.

Material and methods

This was a clinical study conducted at department of general surgery at **Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India.**

which is located in rural area. This study was done during from April 2015 to March 2016. Institutional ethical approval was obtained before conducting this study. As per protocol, patients presented with different breast related problems like lump in breast, nipple discharge, associated fever and mastalgia were admitted in surgical ward for evaluation. Patients were clinically examined to record all clinical details. Sonography, mammography and fine needle aspiration cytology was done in selected cases as per need. Patients were posted for surgery as indicated. Finale diagnosis was made after histopathological examination of the specimen.

Inclusion criteria

Patient of either sex, presented with breast lump, nipple discharge, sinus, associated fever and mastalgia in whom histopathology revealed any type of non-malignant BBD were included in the study.

Exclusion criteria

Patient treated on outdoor patient basis were excluded further patient with malignant breast lesions and acute breast abscess requiring incision and drainage were excluded from the study.

All patients satisfying above criteria were considered for the study. All clinical records were collected, and evaluated for various parameters like age, sex, type of breast disease. Clinical, imaging and histopathological diagnosis was noted. Information regarding surgical and medical treatment given to the patients was collected and reviewed. After making an appropriate clinical diagnosis, one or more of the special investigations- FNAC, mammography, ultrasound or a core- needle biopsy were carried out for the confirmation of the diagnosis. All patients underwent operative treatment either in the form of excision biopsy or enucleation or wide excision or simple mastectomy. The excised specimen was sent for histopathological examination for confirmation of clinical diagnosis. All the patients were followed up for varying periods for evidence of recurrenc

Results

Table 1: Spectrum of benign breast diseases

Type	Number of Cases	Percentage (%)
Fibroadenoma	79	39.5
Cystosarcoma phylloides	7	3.5
Fibroadenosis	49	24.5
Breast abscess	12	6
Duct ectasia	3	1.5
Lipoma	4	2
Fibroadenoma with fibrocystic changes	32	16
Duct papilloma	5	2.5
Galactocele	4	2
Accessory breast	1	0.5
TB Mastitis	2	1
Sebaceous cyst	2	1
Total	100	100

Table 2: Age (years) distribution of different benign breast diseases

Disease	Below 20yr	20-30	30-40	Above 40	Total
Fibroadenoma	13	33	22	11	79
Cystosarcoma phylloides		1	2	4	7
Fibroadenosis	11	23	13	2	49
Breast abscess		4	7	1	12
Duct ectasia		2	1		3
Lipoma		1	2	1	4
Fibroadenoma with fibrocystic changes	12	10	8	2	32
Duct papilloma		3	2		5
Galactocele	1	3			4
Accessory breast			1		1
TB Mastitis			2		2
Sebaceous cyst		1	1		2
	37	81	61	21	200

Table 3: Site of involvement

Disease	Right Breast	Left Breast	Both	Total
Fibroadenoma	27	38	14	79
Cystosarcomaphylloides	2	4	1	7
Fibroadenosis	13	26	10	49
Breast abscess	5	7		12
Duct ectasia	1	2		3
Lipoma	1	3		4
Fibroadenoma with fibrocystic changes	17	15		32
Duct papilloma	4	1		5
Galactocele	2	2		4
Accessory breast	1			1
TB Mastitis	2			2
Sebaceous cyst	1	1		2
Total	76 (38 %)	99 (49.5%)	25 (12.5%)	200

Table 4: Different types of presentation and their incidenc

Presentation	No of patients	Percentage (%)
Breast lump only	123	61.5%
Breast lump + pain	38	19.0%
Breast lump + pain + nipple discharge	3	1.5%
Breast pain only	32	16.0%
Nipple discharge only	4	2.0%

Discussion

Benign breast diseases include a heterogeneous group of conditions which range from normal, to aberrations in the physiology, to frank disease. The patients of BBDs generally present with one or more of these complaints breast lump, breast pain or nipple discharge. It has been recommended that all the patients with discrete breast lumps should undergo a triple assessment to make an early diagnosis.

In the present study, the spectrum and clinical profile of benign breast disease in the rural area were studied. Fibroadenoma was the most common breast lesion in our study constituting 79 cases (39.5%), benign breast lesions. Similar findings were reported by Amr et al,[10] Kulkarni et al[11], Malik et al[12] In their study they found most common benign breast lump was fibroadenoma. Amr et al10 reported 30.7%, Kulkarni et al[11] 62.32%, Malik et al[12] 41%, cases of fibroadenoma. In present study the most common age group did 20-30 years constitute 41.5% of fibroadenoma which is comparable to the above studies.Second most common lesion in our study was fibroadenosis accounting for 24.5%of benign breast lesions. Echejoh et al[13] observed maximum number of cases in 30-40 years. Amr et al[10] reported maximum incidence of fibrocystic disease in 31-35 years. In the present study the maximum age incidence observed in the age group of 20-30 years.Naveen et al., (2013) and Rashid et al., (2005) noted fibrocystic disease as the second common BBD after fibroadenoma accounting for 36% and 17% respectively. Stern (1992) found fibrocystic disease as the most common in females of all ages especially in the middle age group[14,15].In present study, 82% patients presented with lump in breast. Kulkarni et al[11] observed lump as main presenting symptom in most of the benign proliferative breast lesion, which is in accordance with this study. Malik et al[12] reported breast abscess (12.4%) as second most common benign breast lesion. In present series we found maximum age incidence in the age group ranged from 30-40 years and majority of them were lactating mothers comparable with findings of Malik et al[12] Most of cases of granulomatous mastitis were in between 30-40 years of age. Galea et al[16] observed granulomas confined to the lobule. Our present study findings are similar to these workers that the granulomas are confined to lobule.In present study, incidence of tuberculosis was found to be 1 %. Ikard and Perkins[17]and Haagensen[18] and Shinde et al[19] observed 0.025% and 0.062%, 1-4.5% incidence of tuberculosis of breast, respectively. We observed maximum number of patients of breast tuberculosis in 30-40 years of age group, which is comparable with incidence reported by Tewari et al[20] (20-50 years of age group) while Goldmann et al. observed maximum number in 20- 50years of age[21]

The patients were broadly divided into 3 groups, depending on their symptoms or presentations, such as a breast lump, breast pain and a nipple discharge. The commonest presentation was breast lump which comprised (82%) cases, patients with breast pain 36.5% and patients with nipple discharge 3.5%.More than one symptom was present for the same patient Among 41 (20.5%) patients with breast pain, 32 (16%) patients complained of breast pain (mastalgia) only, who were treated by using a conservative approach or reassurance. The rest had associated complaints like breast lump and nipple discharge. The pain was cyclical in 42 patients and was non-cyclical in 31 cases. Among the 3 cases with nipple discharge, 4 cases presented with nipple discharge only, without any associated lump or pain. The cause for 5 cases was intraductal papilloma and for the rest, it was mammary duct ectasia.All the cases in this study were subjected to USG of Breasts. After verifying with histopathological diagnosis, we found that USG of the breast has a good sensitivity and specificity in the diagnosis of fibroadenoma. It was helpful in differentiating solid from Cystic lumps of the breast. FNAC forms the major investigatory modality with a sensitivity of 99% and specificity of 89% in diagnosing fibroadenoma.Surgical excision is the effective treatment for most of the benign breast disease nearly up to 92% cases. Wide excision and simple mastectomy needed rarely. Women who came for follow up after surgical procedure were satisfied by treatment.

Conclusion

Thus we conclude from this study that the commonest benign breast lesion encountered in clinical practice is fibroadenoma (39.5%), followed by fibroadenosis (24.5%). The most common age group affected was 20-30 years. The most common site of involvement is left breast (49.5%). The commonest mode of presentation in

patients with BBDs was Lump (82%) followed by pain (36.5%) in breast

References

1. Romrell LJ, Bland K. Anatomy of Breast, Axilla, Chestwall, and Related Metastatic Sites. Chapter 2, The Breast - Comprehensive Management of Benign and Malignant Disorders. 3rd Ed., Vol. 1 Blend Kirby I, Copeland III Edward M., W.B. Saunders Company, Philadelphia; 2004: 21-42.
2. Khemka A, Chakravarti N, Shah S, Patel V. Palpable breast lumps: Fine needle aspiration cytology versus histopathology, a correlation of diagnostic accuracy. Int J Surg. 2009;18:1.
3. Cole P, Mark E, Kaplan S. Incidence rates and risk factors of benign breast neoplasms. Am J Epidemiol. 1978;108:112-20.
4. Hutchinson WB, Thomas DB, Hamlin WB, Roth GJ, Peterson AV, Williams B. Risk of breast cancer in women with benign breast disease. J Natl Cancer Inst. 1980;65:13-20.
5. Kelsey JL, Gammon MD. Epidemiology of breast cancer. Epidemiol Rev. 1990;12:228-40.
6. Sarnelli R, Squartini F. Fibrocystic condition and at- risk lesions in asymptomatic breasts: A morphologic study of postmenopausal women. Clin Exp Obstet Gynecol. 1991;18:271-9.
7. Cook MG, Rohan TE. The patho-epidemiology of benign proliferative epithelial disorders of the female breast. J Pathol. 1985;146:1-15.
8. Mansel RE. Benign breast disease. Practitioner. 1982;232:830-7.
9. Sainsbury RC. Breast, In: Norman WS, Bulstrode CJ, Ronan P, O'Connel, editors. Bailey and Love's Short Practice of Surgery. 25th ed. London: Edward Arnold Ltd.; 2008:827-835.
10. Amr SS, Abdul Rahman, M Sadi, FazalIlahi, SS Sheikh. The Spectrum of Breast Diseases in Saudi Arab Females: A 26 yr Pathological Survey at Dhahran Health Center. Ann Saudi Med 1995; 15(2):125-132.
11. Kulkarni S, Vora I. M, Ghorpade K G, Shrivastava S: Histopathological spectrum of breast lesions with reference to uncommon cases. Obstet Gynecol India2009; 59 (5):444-452.
12. Malik MAN, Salahuddin O, Azhar M, Dilawar O, Irshad H, Sadia, Salahuddin A. Breast diseases; Spectrum in WahCantt; POF Hospital experience. Professional Med J Sep 2010; 17(3):366-372.
13. EchejohGodwins, D David and J Akeem. Histopathologic analysis of benign breast diseases in Makurdi, North Central Nigeria. Int Nat J of Medi and Med Sci. May 2011; 3 (5):125-128.
14. Naveen N, Avijeet M and Vikrant M.A clinical study of benign breast disease in rural population. Journal of Evolution of Medical and Dental Sciences 2013; 12:5499-511.
15. Rashid R, Haq SM, Khan K, Jamal S, Khaliq T and Shah A.Benign breast disorders, a clinicopathological Study. Annals of Pakistan Institute of Medical Sciences 2005; 1:187-90.
16. Galea MH, Robertson JF, Ellis IO, Elston CW, Blamey RW. Granulomatous lobular mastitis. Aust N Z J Surg. 1989 Jul; 59(7):547-50.
17. Ikard RW and Perkins SD. Mammary tuberculosis; a rare modern disease. South Med. J 1977; 70: 208-12.
18. Haagensen CD. Infections in the breast. In: Disease of breast. Philadelphia W.B. Saunders 3rdedn. 1986; 333- 342.
19. Shinde SR, Chandaworker RY and Deshmukh SP. Tuberculosis of the breast, masquerading as carcinoma. A study of 100 patients. World J Surg.1995; 19:379-8.
20. M Tewari and H S Shukla. Breast tuberculosis: diagnosis, clinical features and management. Indian J Med Res 2005; 122: 103-110.
21. Goldman KP: Tuberculosis of the breast. Tubercle. 1978; 59:41.

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