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Clinicopathological correlation of benign breast diseases- An observational study.

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Thesis

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There are no conflicts of interest for any of the authors.

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ABSTRACT:

Background: Breasts are the distinguishing characters of the mammals1. Breast is a dynamic organ which undergoes several cyclical changes during the reproductive life and is influenced by the hormones during puberty, menstruation, pregnancy, lactation and menopause. Benign breast diseases (BBD) are common during this reproductive life. These diseases are more common than the breast cancer. The most common symptoms are lump (47%) and pain (37%), the main concern of the patient being if the lump is a malignancy. 30% of the women who suffer from BBDs will require treatment at some time in their lives. The aim of this clinic-pathological study is to exclude malignant breast disease & lay an emphasis on presentation & treatment of benign breast diseases.

Objectives:

1.To study the natural history and different modes of clinical presentation of benign breast diseases.

2.To study the breast diseases with respect to various pathological presentations.

3.To correlate the clinical diagnosis with the histopathological diagnosis in order to refine the diagnostic skills and mend the mistakes committed in the process.

Materials and Methods: 60 patients admitted with benign breast diseases under General Surgery care in HKE'S Basaweshwar Teaching and General Hospital, Gulbarga were taken as Subjects for this study, after obtaining institutional ethical committee clearance & taking the proposed Informed Consent from the patients. Timeline of the Study: 18 months from DEC 2012 to MAY 2014.

Conclusions: Fibroadenoma was the predominant breast tumour occurring in 56.67% of cases. The next common were breast abscess occur in 18.3%, fibroadenosis11.67% and phyllodes tumour 7.5%. 2 found two cases of antibioma. Most common presenting complaint was painless lump(53.3%) Majority of cases presented to the hospital between 1-6 months after noticing the symptoms. FNAC and HPR are diagnostically accurate.

INTRODUCTION

Breasts are the distinguishing characters of the mammals[1]. Breast is a dynamic organ which undergoes several cyclical changes during the reproductive life and is influenced by the hormones during puberty, menstruation, pregnancy, lactation and menopause.

Benign breast diseases (BBD) are common during this reproductive life. These diseases are more common than the breast cancer. The most common symptoms are lump (47%) and pain (37%), the main concern of the patient being if the lump is a malignancy. 30% of the women who suffer from BBDs will require treatment at some time in their lives.

Benign breast diseases contain a spectrum of diseases ranging from inflammatory conditions of the breast to the benign neoplastic conditions of the breast. Benign proliferative changes in the breast are considered as Aberration in the Normal Development and Involution [ANDI]. The concept of ANDI was first described by Prof. Hughes and these aberrations are due to the cyclical variations in the estrogen and the progesterone levels.

Benign conditions of the breast have always been neglected in comparison to cancer, despite the fact that only one out of ten patients presenting to a breast clinic suffer from cancer. This is not surprising in view of the emotional implications of breast cancer and its treatment, but it has meant that the study of the benign breast disorders has been undeservedly neglected. Reported studies have been directed largely towards a possible relationship to cancer, rather than towards the basic processes underlying benign conditions[2].

The aim of this clinic-pathological study is to exclude malignant breast disease & lay an emphasis on presentation & treatment of benign breast diseases.

Objectives:

1. To study the natural history and different modes of clinical presentation of benign breast diseases.
2. To study the breast diseases with respect to various pathological presentations.
3. To correlate the clinical diagnosis with the histopathological diagnosis in order to refine the diagnostic skills and mend the mistakes committed in the process.

MATERIALS AND METHODS

60 patients admitted with benign breast diseases under General Surgery care in HKE'S Basaweshwar Teaching and General Hospital, Gulbarga were taken as Subjects for this study, after obtaining institutional ethical committee clearance & taking the proposed Informed Consent from the patients.

Prospective observational study of these patients was done to analyze the distribution of disease with respect to age, type of benign breast disease, chief complaints, duration, side, size, clinical & histopathological diagnosis and to compare and correlate the clinical diagnosis with pathological diagnosis.
Timeline of the Study: 18 months from DEC 2012 to MAY 2014.

Inclusion Criteria:

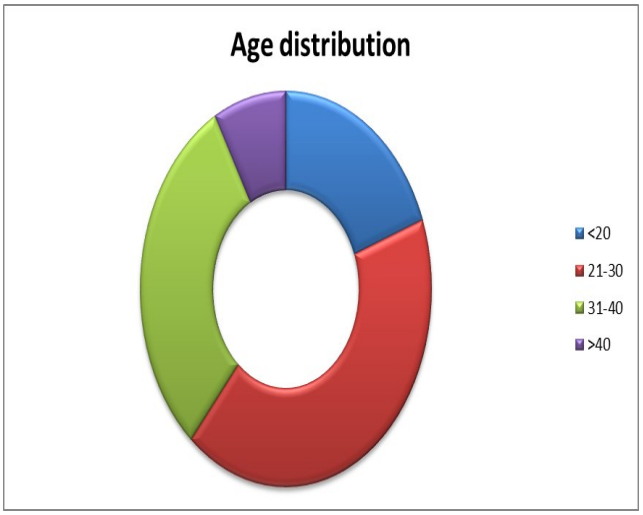
All patients admitted with benign breast diseases under General Surgery care in HKE'S Basaweshwar Teaching and General Hospital, Gulbarga would be taken as Subjects for this study.

Exclusion Criteria:

Patients admitted with malignant neoplasms of the breasts, cutaneous lesions of the breast and lesions affecting the adjacent tissues extending to breasts were excluded.

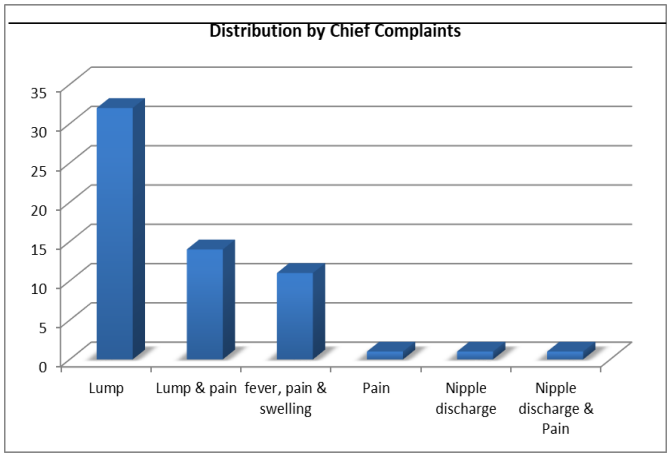
RESULTS AND DISCUSSION

In the present study, the youngest affected is a 14yr old female and the oldest female is 45yrs old. Maximum number of patients in this study group was in the age group of 21-30 yrs followed by 31-40 and the least being in the age group of >40 yrs



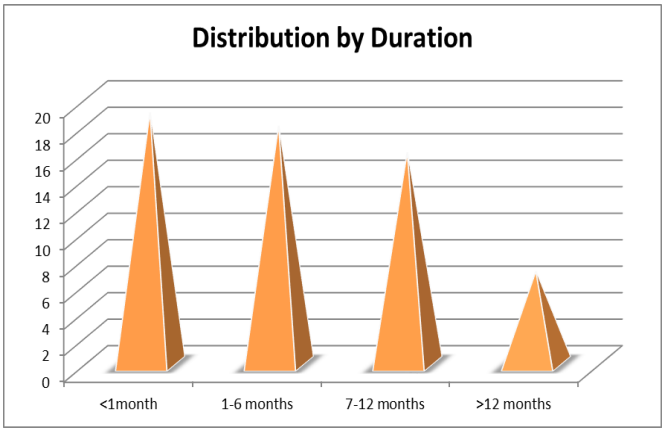
Graph1: Distribution by Age

In this study, patients mostly presented with painless lump in the breast 53.3%, 32 cases followed by painful lump in 23.3% and nipple discharge with or without pain being least i.e. in 1 patient each.



Graph 2: Distribution by complaints

31.6% of patients presented within 1 month & 30% of patient presented between 1-6 months & 7 presented after 1 year. Younger patients presented earlier than older patients.



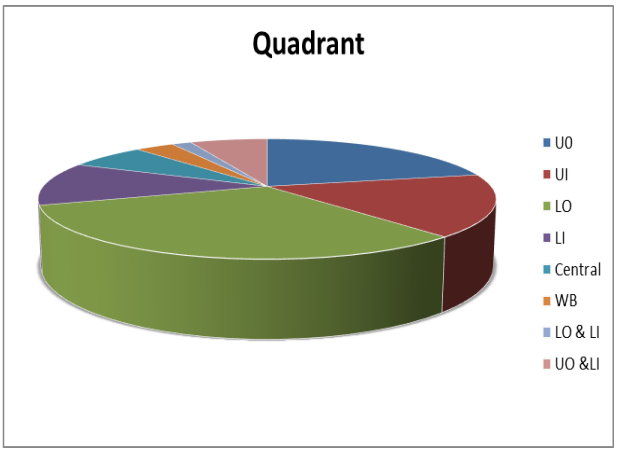
Graph 3: Distribution by Duration of complaints

Table 1: Distribution by Side

Side	Frequency	Percent
Left	28	46.67
Right	31	51.67
Bilateral	01	1.67
Total	**60**	**100.0**

Incidence of benign breast disease in the present study sample was found to be significantly on the right side.

The incidence of benign breast disease in our study, as shown in the graph below, is maximum in the upper outer quadrant in 31.67%.i.e, 19 patients followed by the lower outer quadrant in 21.67%.i.e, 13 patients. Upper inner quadrant was involved in 16.67%.i.e, 10 patients and the both(outer & inner) in lower quadrant was the least accounting to 1.67%.i.e,one patient only.



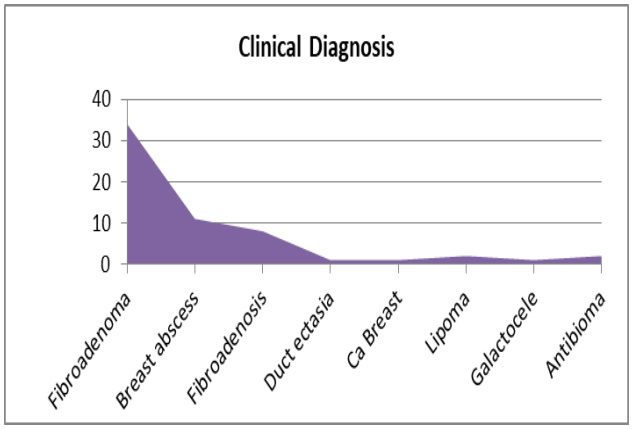
Graph 4: Distribution by Quadrant

Table 2: Distribution of study subjects according to Size of Lesion

Size (sq cms)	No of cases	Percentage
<20	50	83.33
20-50	5	8.3
>50	5	8.3
Total	**60**	**100**

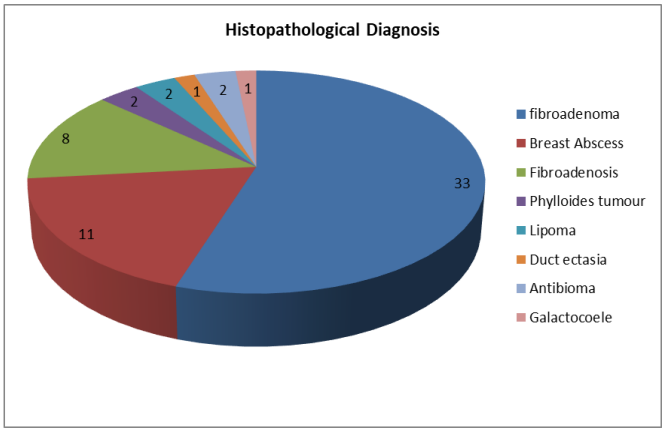
The sample size was categorized into 3 categories with majority of our patients in the group <20 sq cms and the other 2 groups.i.e,20-50 sq cms and >50 sq cms having 5 patients each. Average size was 19.46 sq cms.

Sample was categorized based on the clinical diagnosis and from the above table it is shown that Fibroadenoma is the most common Benign breast disease(56.67%). Next common benign condition found was breast abscess with 11 cases (18.3%)



Graph 5: Distribution according to clinical diagnosis

Based on the histopathology in the present study fibroadenoma predominated with 34 cases (56.67%). Next common benign condition found was breast abscess with 11 cases (18.3%), followed by fibroadenosis, i.e. 78cases (13.33%), 2 cases of phyllodes tumour, antibioma & lipoma each were recorded. Single cases of galactocoele& duct ectasia were seen.



The incidence of fibroadenoma was maximum, in 21-30yrs (38.4%). Breast abscess was seen maximum in the age group of 21-30yrs. Fibroadenosis was seen maximum in the age group of 31-40yrs. Both cases of phylloides tumour were found between 21-30yrs. of age group, lipoma was seen in the age group of 21-30 & 31-40yrs, one each. Galactocele was seen in the age group 21-30yrs, Duct ectasia in 35yr old female.

The below table shows that the sensitivity of Clinical Diagnosis in Diagnosing Benign Breast Diseases is 97% but whereas in case of Fibroadenosis, Antibioma, Lipoma, Galactocele, Phylloides tumour was 100%. The 2 cases which were diagnosed as Phylloides tumour by FNAC was confirmed by HPR.

Table 3: Comparison of Clinical Diagnosis with HPR

Disease	Clinical	HPR
Fibroadenoma	34	33
Fibroadenosis	8	8
Phylloides Tumour	0	2
Carcinoma Breast	1	0
Duct Ectasia	1	1
Galactocele	1	1
Lipoma	2	2
Antibioma	2	2

Benign breast diseases are the most common diseases of the breast, 10 times more common than carcinoma breast. Benign breast diseases contain a spectrum of diseases ranging from inflammatory conditions of the breast to the benign neoplastic conditions of the breast. Benign proliferative changes in the breast are considered as Aberration in the Normal Development and Involution [ANDI]. Benign breast diseases are relatively minor aberrations of normal process of development, cyclical hormonal response, pregnancy and lactation related and involution that interact throughout a woman's life.

Age distribution:

In previous studies done by Narayan Das et al, Khanna et al, Mima et al also had the similar age distribution with majority of the patients being in the age group of 21-30 yrs.

In the present study, the youngest affected is a 14yr old female and the oldest female is 45yrs old. Maximum number of patients in this study group was in the age group of 21-30 yrs followed by 31-40 and the least being in the age group of >40 yrs.

Chief complaints:

Most common presenting complaint was a painless lump 53.3%(32 cases) similar to the study conducted by Narayan Das et al, Kulkarni et al, Malik et al in contrary to the study done by Katiyar Shailesh Kumar where the most common presenting complaint was pain. It could be probably that pain was a precipitating factor for the patient.

Duration:

In the present study 30.0% of patients presented within 1 month & 31.6% of patient presented between 1-6 months & 7 presented after 1 year. Younger patients presented earlier than older patients.

Distribution by side:

In the previous studies done by Abhijeet et al,Mima B et al similar results were observed.

In the present study,Incidence of benign breast disease in the present study sample was found to besignificantly on the right side.

Distribution by quadrant:

In the previously done study by Saleh Mohammed et al, results obtained were similar to the present study that the most quadrant involved was right upper quadrant probably the maximum in the upper outer quadrant

In the present study incidence of benign breast disease in our study is maximum in the upper outer quadrant in 31.67%.i.e, 19 patients followed by the lower outer quadrant in 21.67%.i.e, 13 patients. Upper inner quadrant was involved in 16.67%.i.e, 10 patients and the both(outer & inner) in lower quadrant was the least accounting to 1.67%.i.e,one patient only.

Distribution by size:

The previously done study by **Ajitha**, the majority of the patients were in the size group of 20-50 sq cms.

In the present study, the sample size was categorized into 3 categories with majority of our patients in the group <20 sq cms and the other 2 groups.i.e,20-50 sq cms and >50 sq cms having 5 patients each. Average size was 19.46 sq cms

Distribution by Clinical diagnosis:

The previously done studies by Das et al,Kulkarni et al, Sandhya iyer fibroadenoma was the most common benign breast disease

In the present study fibroadenoma predominated with 34 cases (56.67%). Next common benign condition found was breast abscess with 11 cases (18.3%), followed by fibroadenosis, i.e. 8 cases (13.33%), 1 case of Ca breast, antibioma & lipoma each were recorded. Single cases of galactocele & duct ectasia were seen.

Distribution by HPR:

Previously done studies by Sandhya iyer,Kaur N fibroadenoma was the predominant Benign breast disease

In the present study fibroadenoma predominated with 33 cases (55%). In contrary to the above mentioned studies the next common benign condition found was breast abscess with 11 cases (18.3%), followed by fibroadenosis, i.e. 8 cases (13.33%), 2 cases of phyllodes tumour, antibioma & lipoma each were recorded. Single cases of galactocele& duct ectasia were seen.

Comparing clinical & HPR report:

The present study shows that the sensitivity of Clinical Diagnosis in diagnosing Fibroadenosis was 97%, and in fibroadenosis it was 100%,2 cases of phylloides tumour was diagnosed by FNAC 1 among these 2 cases were diagnosed as Carcinoma Breast and the other was diagnosed as Giant fibroadenoma. The overall sensitivity of Clinical Diagnosis in detecting Benign Breast diseases is 97.9%.

CONCLUSIONS

Fibroadenoma was the predominant breast tumour occurring in 56.67% of cases. The next common were breast abscess occur in 18.3%, fibroadenosis11.67% and phyllodes tumour 7.5%. 2 found two cases of antibioma. Most common presenting complaint was painless lump(53.3%) Majority of cases presented to the hospital between 1-6 months after noticing the symptoms.

FNAC and HPR are diagnostically accurate.

REFERENCES

1. Sainsburg RC. The breast. In: Russell RCG, Williams NS, Bulsrode CJK editors. Bailey and Love's short practice of surgery.24th edition, Arnold.London. 2004. p.824-846.
2. Hughes LE, Mansel RE, Webster DJT.Benign disorders and disease of breast.Concepts and clinical management.2nd edn.Bailliere Tindall. London.1989.
3. Johnson D, Shah P, Collins P, Wigley C. Breast. In: Standring S, editor. Gray's anatomy. 38thed. London: Elsevier Churchill Livingstone; 2005: p. 969-976.
4. GAG Ducket, DJ du Plessis. Lee McGregors Synopsis of Surgical Anatomy,John Wright & Sons;Bristol:1986,p161-162.
5. Chummy S. Sinnatumby: "breast"- Last"s anatomy, Edition 10th, pp.53-55.Churchill- Livingstone Publishers, 1999.
6. Schwartz SI, Shire GT, Spencer FC et al. Principle of surgery, 8th edition chapter 14, Breast Published by McGraw-hill2005.
7. Raabe MA, McCoshen JA. Epithelial regulation of prolactin effect on amnionic permeability. Am J ObstetGynecol 1986; 154: 130.
8. Amenta PS (ed). Histology and Human Microanatomy. New York, John Wiley and Sons, 1987; 503.
9. Petraglia F, DeLeo V, Nappi C et al. Differences in the opioid control of luteinizing hormone secretion between pathological and iatrogenic hyperprolactinemic states. J Clin EndocrinolMetab 1987; 64: 508.

10. Jones BM, Bradbeer JW. The presentation and progress of macroscopic breast cysts
11. Haagensen CD. Diseases of the breast.3rd ed. Philadelphia.WB Saunders 1986; PP.
12. Hutter RVP. Goodbye to "fibrocystic disease". N Engl J Med 1985; 312: 179.
13. Love SM, Gelman RS, Silen W. Fibrocystic disease of the breast: a non-disease. N Engl J Med 1982; 307: 1010.
14. Fasal E, Paffenbarger RS. Oral contraceptives as related to cancer and benign lesions of the breast. J Natl Cancer Inst 1975; 55: 767.
15. Lees AW, Burns PE, Grace M. Oral contraceptives and breast disease in premenopausal Northern Albertan women. Int J Cancer 1978; 22: 700.
16. Scanlon EF. The early diagnosis of breast cancer. Cancer 1981; 48: 523.
17. Rosai J. Breast. In: Rosai and Ackerman's Surgical Pathology. 9th edn Mosby.Missori. 2004. p. 176-1839
18. Harris JR, Lippman ME, Morrow M. Hellman S. Diseases of the breast. Lippincot. Philadelphia. 2000.
19. Martin PM, Kutter F, Serment H, et al. Progesterone receptors in breast Fibroadenomas.J Steriod-Biochem 1979; 11; 1295.
20. Sitruk-Wane R, Sterkers N, Manvan's-Jarvis P. Benign breast disease. I.Hormonalinvestigations.ObstetGynecol 1979; 53:457.
21. Moran CS. Fibroadenoma of breast during pregnancy and lactation. Arch Surg 1935; 31:688.
22. Cyralak D, Wong CH. Mammographic changes in postmenopausal women undergoing hormonal replacement therapy. Am J Roentgenol 1993; 161: 1177.
23. Meyer JE, Freen TN, Polger M, et al. Enlarging occult fibroaadenomas. Radiology 1992; 183: 639.
24. Fechner RE. Fibroadenoma in patients receiving oral contraceptives: a clinical and pathological study. Am J ClinPathol 1970; 53: 857.
25. Wilkenson S, Anderson TS, Rifkind E, et al. Fibroadenoma of the breast: a follow- up of conservative management. Br J Surg 1989; 79:390.
26. Sharkey FE, Allred DC, Valente PT.In:Linder J, Damjanov 1 editors. Anderson's pathology.10th edn. Mosby. Missouri. 1996. p. 2354-2387.
27. Pike AM, Oberman HA. Juvenile (cellular) adenofibromas.Am J SurgPathol 1985; 9: 730.
28. Buzanowski-Konakry, Harrison E G Jr, Payne WS. Lobular Carcinoma arising in fibroadenoma of the breast. Cancer 1975; 35:450-456.
29. Fondo EY, Rosen PP, Fracchia AA, Urban JA. The problem of carcinoma developing in a fibroadenoma: recent experience at Memorial Hospital.Cancer 1979; 43:563.
30. Diaz NM, Palmer JO,McDivitt RW. Carcinoma arising within fibroadenomas of the breast: a clinico pathological study of 105 patients. Am J Clin Pathol1991; 95: 614.
31. Winchester DP, Lernefsky MH. Diagnostic approach to breast abnormalities.In: Barker RJ, Fischer JE editors. Mastery of surgery.4th edn. Lippincott Williams and Wilkins. Philadelphia. 2001. p. 574-587.
32. Cant PJ, Madden MV, Panlime M, Lear month,AnneHacking, Dent DM. Case for conservative management of selected fibroadenomas of the breast. Br J Surg 1987; 74: 857-859.
33. Buchanan EB. Cystosarcoma phyllodes and its surgical management. Ann Surg 1995; 61: 350-355.
34. Rainville E. Metastatic cystosarcoma phyllodes: a case report. ActaCytol 1993; 37:555-558.
35. Wolfson P, Rybak BJ, Kim U. Cystosarcoma phyllodes metastatic to the pancreas. Am J Gastroenterol 1978; 70: 184-187.
36. Rhodes RH, Frankel KA, Davis RL, Tatter D. Metastatic cystosarcoma phyllodes: a report of 2 cases presenting with neurological symptoms. Cancer 1978; 41: 1179-1187.
37. Abemayor E, Nast CC, Kessler DJ. Cystosarcoma phyllodes metastatic to the mandible. J SurgOncol 1988; 39: 235-240.
38. Norman S. Williams. Christopher J.K. Bulstrode&P.RonanO"Connel. London." The Breast" Bailey & Loves short practice of surgery; Hodder Arnold: 25Th edition-2008,834.
39. 39. Carlson H.E. Gynecomastia. New Eng J Med 1980;303:795-9
40. Cole EN, Sell wood RA, England PC, Breckwoldt M .Serum prolactin concentration on benign breast disease throughout the menstrual cycle. Eur J Cancer 1977;13:59
41. Fentiman IS, Caleffi M, Hamed H, etal. Dosage and duration of Tamoxifen for mastalgia. A controlled trial. Br J Surg 1988; 75:845.
42. Hermansen C, Poulsen HS, Jensen J, et al. Diagnostic reliability of combined physical examination, mammography, and fine-needle puncture ("triple test") in breast tumors: A prospective study. Cancer 1987; 60: 1866.
43. Dixon JM et al. Reduction of the surgical excision rate in benign breast disease using fine needle aspiration cytology with immediate reporting. Br J Surg 1987; 74: 1014-1016.
44. Gravelle I, Lyons R, Radiological evaluation of benign breast disorders. World J. Surg 1989; 13: 685.
45. Preece PE, GravilleIH , Hughes LE et al. The operative management of subclinical breast cancer. Clinical Oncology 1977; 3: 165.
46. Kopans DB, De Luca SA. Modified needle hook wire technique to simplifypreoperative localisation of breast lesions. Radiology 1980; 134: 781.
47. Basset LW, Kimme – Smith C. Breast Sonogra-

phy. AJR 1991; 156: 449.
48. Smallwood J, Guyer PB, Dewbyry KG et al. The accuracy of ultrasound in the diagnosis of breast disease. Ann R CollSugnEngl 1986; 68: 19.
49. Staren ED. Surgical office based ultrasound of the breast. AM Surg 1983; 61: 619.
50. Sickles EA, Klein DA, Goodson WH, Hunt TK. Mammography after fine needle aspiration of palpable breast masses. Am J Surg 1983; 145: 392-7.
51. Physician Insurer's Association of America. Breast Cancer Study. Washington DC,1995.
52. Kern KA. Breast biopsy in young women. Am J Surg 1993; 166: 776.
53. Helvie MA, Baker DE, Adler DD, et al. Radiographically guided fine-needle aspiration of nonpalpable breast lesions. Radiology 1989; 171: 373.
54. Parker SH, Lovin JD, Jobe WE, et al. Nonpalpable breast lesions: Stereotactic automated large-core biopsies. Radiology 1991; 180: 403.
55. Kelley WF, Bailey R, Bertelsen C, Diaco J, Iiagans JE, Kritzky K et al. Stereotacti automated surgical biopsy using the ABBI biopsy device: a multicentric study. Breast 1998; 4:302 - 6.
56. Janes RH, Bouton MS. Initial 300 consecutive stereotactic core needle breast biopsy by a surgical group. Am J Surg 1994; 169: 533.
57. Drew PJ, Monson JRT.Magnetic resonance mammography. Br J Surg 1996; 83:1316.
58. Fischer U, Vosshenrich R, Doler W et al. MR imaging guided breast intervention experience with two systems. Radiology 1995; 195: 593.
59. MangiAA, Smith BL, GaddMA, et al. Surgical management of phylloidestumors. ArchSurg 1999;134:487-49
60. Beechey-Newman N, Kulkarni D, Kothari A et al. Breast duct microendoscopy innipple discharge: micro brush improves cytology. Surgical Endoscopy 2005;12:1648-1651.
61. Govindarajulu S, NareddySR,ShereMhet al. Sonographically guided mammotome excision of the ducts in the diagnosis and management of single duct nipple discharge. Europian Journal of Surgical Oncology 2006; 32:725-728.
62. Barros AC, Mottola J, Ruiz CA, et al. Reassurance