INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH & DEVELOPMENT

ISSN 2278 – 0211 (Online)

Clinical Study of Benign Breast Diseases

Dr. B. V. Amruthavalli M. S.
Assistant Professor, Department of General Surgery, Guntur Medical College, Guntur, Andhra Pradesh, India
Dr. V. Srihari M. S.
Professor, Department of General Surgery, Kurnool Medical College, Kurnool, Andhra Pradesh, India

Abstract:
This study of Benign Breast Diseases was done between 2008 – 2011 at Kurnool Medical College and Hospital, Kurnool. The study group consisted 175 patients between menarche to 50 yrs. This study chosen as 50-55% of women suffer from breast related disorder. Benign Breast Diseases which is most common cause of breast problems with which Upto 30% of women suffer.
Background: The objectives was to study were to Study the BENING BREAST DISEASES with regard to

- *Clinical presentation*
- *Age wise distribution*
- *Marital status and parity.*

Methods: 175 female patients from Menarche upto 50 years who attended surgery out patient department during 2008 to2011 at KURNOOL MEDICAL COLLEGE GOVERNMENT HOSPITAL, KURNOOL. With various problems. 74 cases were diagnosed as BBD after triple assessment like

- *clinical examination*
- *Ultra sonography or Mammography*
- *FNAC or Core Needle Biopsy*

Were made within 72 HOURS from the first consultation.
Results: - Out of 175 cases a total of 74 cases were found to be in study group. Fibroadenoma accounted for 43% which was highest in number.
Fibroadenosis was the next highest upto 31%
Breast Abscess about 18%
Mastitis 4%
Cystosarcoma Phyllodes and Duct Ectasia about 1.35%
Conclusion:- BBD are common in females and FIBROADENOMA is the commonest in all. Triple assessment provided a quick diagnosis and it alleviated unnecessary anxiety for the patients about breast cancer. The clinical diagnosis of the breast lump as confirmed by cytology and histology was accurate in 91.95% of cases.

Keywords: *BBD, Risk factor, Pathology, Triple assessment.*

1. Introduction

Benign Breast Diseases (BBDs) is a group of breast diseases which is not cancer. It is the most common cause of breast problems in females and it is more frequent than the malignant ones [i–vi]. In fact, it is at least 10 times more common than breast cancer in the west [vii]. Upto 30% of the women who suffer from BBDs will require treatment at some time in their lives [viii]. A triple assessment which is done by a clinical examination, imaging like ultrasonography (USG) or mammography and a pathological examination – FNAC or core needle biopsy, during the initial consultation, allows a majority of the patients with discrete BBDs to be given immediate reassurance. Since a majority of the benign lesions are not associated with an increased risk for subsequent breast cancer, unnecessary surgical procedures can be avoided. Making an early diagnosis and planning the treatment within 72 hours of the first consultation, helps in alleviating unnecessary anxiety about breast cancer and those BBDs patients with an increased risk of malignancy like atypical hyperplasia, are given a prompt treatment, a proper follow-up and awareness regarding the risk of breast cancer.

The popular classification of BBDs according to the Aberration of the Normal Development and Involution (ANDI) causes confusion due to a lack of clarity in distinguishing between the normal physiological changes and the pathologic ones. One of the more

satisfying classifications would be the one which was devised by Love S et al., [ix], the so -called Nashville classification. According to this, BBDs is classified by 2 systems. Pathologically, BBDs is divided into (a) non-proliferative lesions, (b) proliferative lesions Section without atypical and(c) atypical proliferative lesions. Clinically, BBDs is classified as (a) physiologic swelling and tenderness, (b) nodularity, (c) breast pain, (d) palpable lumps, (e) nipple discharge and (f) infections or inflammation. In this study, we profiled the incidence of BBDs, the relative frequencies of the different types of BBDs and their clinical features. Secondly, we attempted at correlating the clinical and pathological findings wherever possible.

2. Materials and Methods

This descriptive study was conducted in the Out Patients Department of General Surgery in kurnool Medical College, Kurnool, Andhra Pradesh from 2008 to 2011. The 74 women who were treated for BBDs were included in this study. The patients were required to give written informed consents prior to their enrolment in the study and a clearance was taken as per the institute's ethical committee guidelines.

Inclusion criteria

Female patients from menarche to 50 years with any benign disorder/disease of the breast-for example, a breast lump, breast pain or a nipple discharge, were included.

Exclusion criteria

Women with an obvious malignant disease or those who had been treated for malignancy earlier, were excluded in this study. .

A detailed history and a thorough physical examination were the basis of the study. 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.

The FNAC smears were reported by using standardized diagnostic criteria by the same pathologist and they were categorized into non proliferative/proliferative without atypia/atypical proliferative lesion/frank carcinoma. A routine histopathological examination was done for the core biopsy and the excision biopsy samples and a cytological and histological-correlation was also done. The clinical diagnosis, particularly in the case of the benign breast lumps, was compared with the cytological or the histological findings and the accuracy of the clinical diagnosis was evaluated.

3. Observation and Results

After detailed enquire into the history and thorough examination a provisional diagnosis was arrived at and the patients were investigated into, excluding those women who were found 'normal'. A total of 74 cases of benign diseases were found in the study group.

The total number of benign diseases, the various provisional diagnoses arrived at clinically were as follows:

Disease	No. of cases	Percentage
Fibroadenoma	32	43.24%
Fibroadenosis	23	31.08%
Mastitis	3	4.05%
Breast Abscess	14	18.91%
Cystocarcoma Phylloides	1	1.35%
Duct Ectasia	1	1.35%
	74	

Table 1

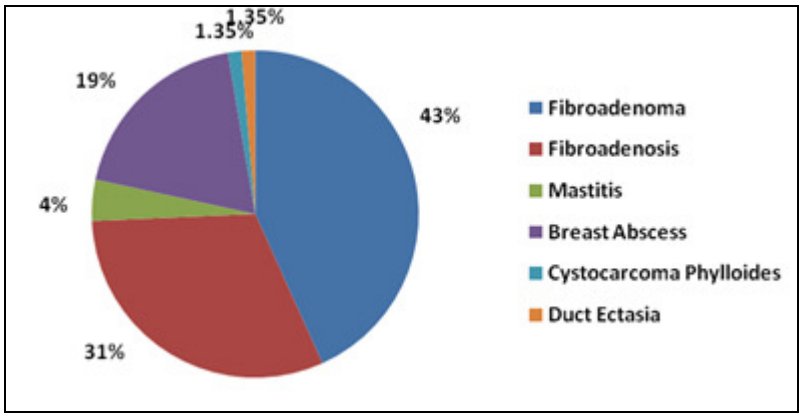

Figure 1: Percentage of cases

Age wise distribution of benign breast diseases in the 175 patients studied is as follows; 45 patients were <20yrs. 69 patients were between 20-30yrs. 47 patients were between 30-40yrs. 18 patients were above 40yrs.

3.1. Age Wise Distribution of Benign Diseases in 175 Cases

Age	Total no of females examined	No. of cases with benign breast diseases	% of cases with benign breast diseases
<20	42	19	45.23%
20-30	69	36	52.17%
30-40	46	17	36.95%
>40	18	2	11.11%
	165	74	42.28%

Table 2

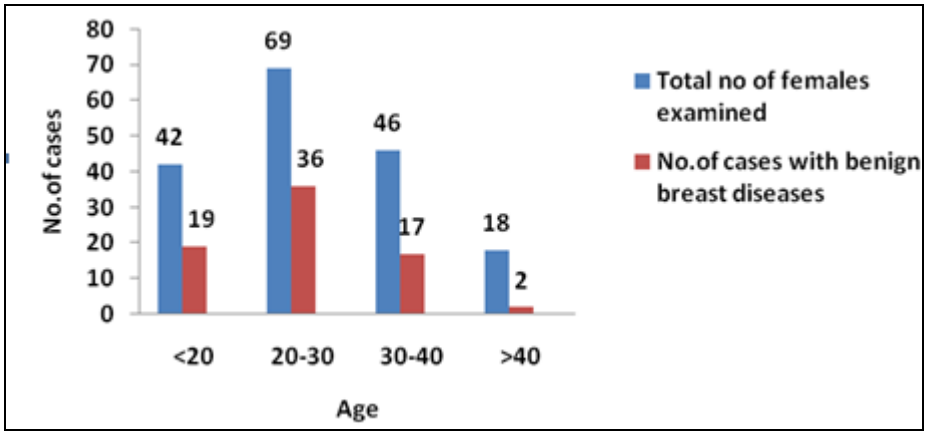

Figure 2: Age wise distribution of benign diseases

Maximum numbers of patients with benign breast diseases in this study group were present in the age groups of 20-30 yrs. (52.17%) followed by <20 yrs. (45.23%). More than 74% of the benign breast diseases were in these two age groups.
Of the 42 patients in the age group of <20 yrs, 31 were unmarried and 11 were married. Of the 69 patients in the age group of 20-30 yrs. 17 were unmarried and 52 were married. Of the 46 patients in the age group of 30-40yrs. one was unmarried and 45 were married and all the 18 patients in the age group >40yrs, were married.

3.2. Marital Status of the Study Group

Age	Total no. of cases examined	Unmarried	Married
<20 yrs	42	31	11
20-30 yrs	69	17	52
30-40 yrs	46	1	45
>40 yrs	18	-	18
	175	49	126

Table 3

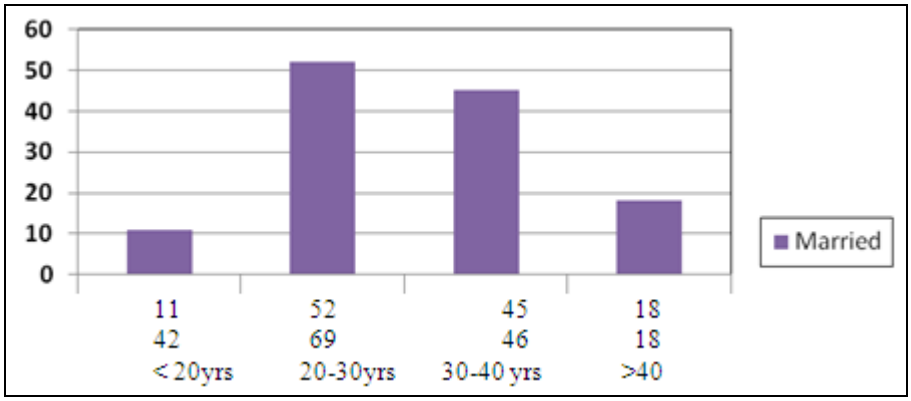

Figure 3: Marital status of the study group

Of the 11 married patients in the age group of <20 yrs, 7 patients were nulliparous and 4 patients were parous and included 3 lactating mothers. Of the 52 married patients in the age group of 20-30 yrs, 9 patients were nulliparous and 43 patients were parous and included 7 lactating mothers. Of the 45 married patients in the age group of 30-40 yrs. 2 patients were nulliparous and 43 patients were parous. All the 18 patients in the age group >40 yrs, were parous.

3.3. Parity Distribution of the Study Group

Age	No. of cases	Unmarried	Nulliparous	Parous
<20 yrs	42	31	7	4
20-30 yrs	69	17	9	43
30-40 yrs	46	1	2	43
>40 yrs	18	-	-	18
	175	49	18	108

Table 4

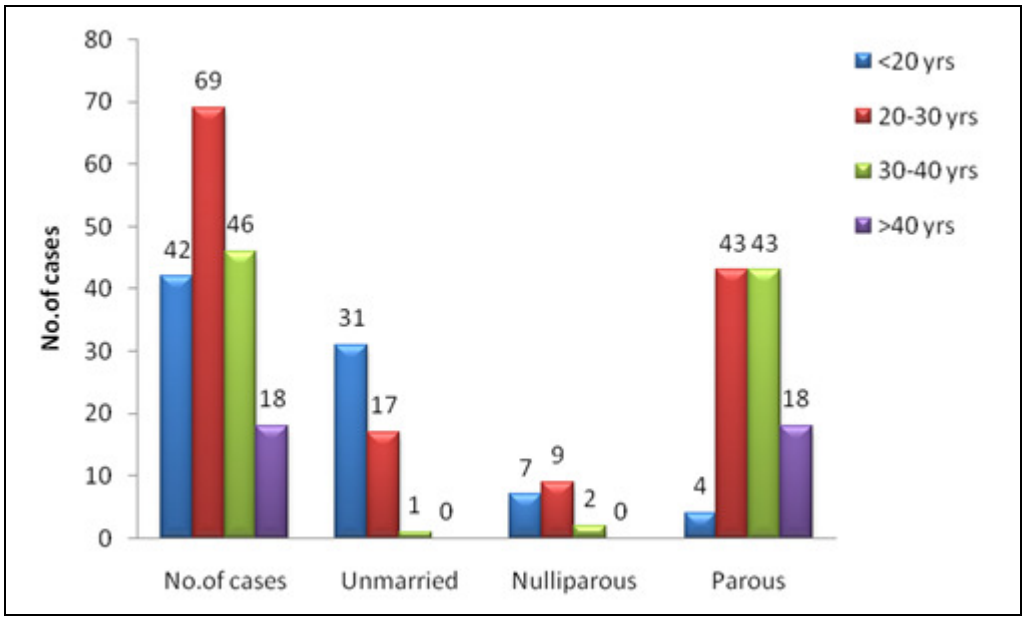

Figure 4: Parity Distribution of the Study Group

In this study of 74 cases, 16 cases of 49 unmarried women, 10 cases of the 18 nulliparous women, and 48 cases of the 108 parous women were found to have benign breast diseases.

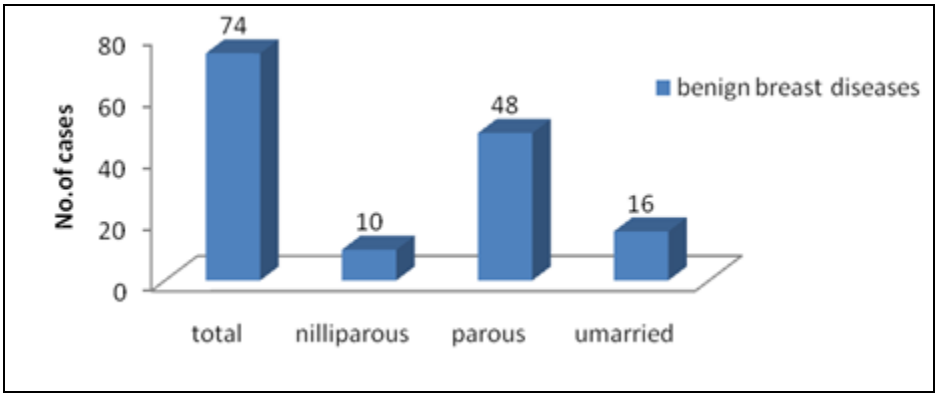

Figure 5: Benign breast diseases

As previously mentioned the symptomology with which the women presented to the out patient department were pain, lump and discharge. The main symptom with which the patient presented was lump. It was seen 100% of patients with benign breast disease (74 cases). Pain was seen in 56.75% of patients with benign breast diseases (42 cases). Discharge was seen in 17.56% of patients with benign breast diseases (13 cases).

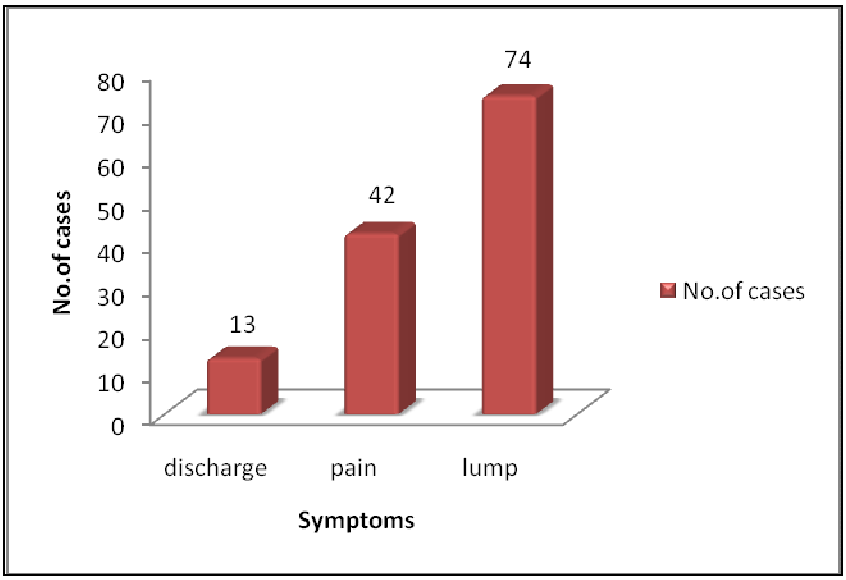

Figure 6

Swelling or breast lump was the predominant complaint in fibroadenoma, fibroadenosis, cystosarcoma Phylloides, and chronic mastitis. Lump associated with pain was seen in fibroadenosis, breast abscess, tuberculous mastitis, and chronic mastitis.

Pain was the predominant symptom in breast abscess – 26% of the patients complaining of pain (11cases). Pain was more pronounce in breast abscess being continuous and throbbing in nature. Pain of tuberculous mastitis was also continuous and dull aching in character. Pain of Fibroadenoma and fibroadenosis was less pronounced and showed variation in relation to the menstrual cycle.

Discharge was seen in 13 patients (17.56%). Discharge was of three types in this study group – milky, serous or pus. The usual discharge was from the nipple. Nipple discharge was milky in breast abscess, serous in duct ectasia, and pus in breast abscess (milk mixed with pus).

No women in the study group were on oral contraceptive hormonal pills or had used them previously. None of the women were smokers or alcoholics.

Out of the 14 cases diagnosed clinically as breast abscess initially 12 cases were confirmed on surgery, and 2 cases were detected to have tuberculous mastitis on surgery and histopathology. Routine pus culture for microbiology and antibiotic sensitivity; and material of the drained pus for histopathology was not sent in case of breast abscess. Only for the 2 cases of breast of breast abscesses which showed delayed healing were scrapings sent for histopatholgical examination on a subsequent day and were diagnosed as being of tuberculosis. The sensitivity of the clinical examination was 85.7%.

Lactation was found to have a strong association with inflammatory breast diseases; 9 of 11 cases of breast abscess were lactating (80%), and of the remaining 2 cases of breast abscess 1 women had in abortion 4 weeks before and in 1 case no reason was found. Of the 32 cases diagnosed clinically as Fibroadenoma after surgery and hisotpathological confirmation 27 cases were actually found to be Fibroadenoma; the sensitivity of the clinical examination being 84.37%. After hisotpathological examination 3 cases were found to have fibroadenosis, 1 was found to be a sebaceous cyst and 1 turned to be malignant (Duct cell carcinoma) for which modified radical mastectomy had to be performed.

Of the 32 cases diagnosed clinically as Fibroadenoma in 25 cases (80%) the lump was seen in the upper quadrants of the breast. Only in the remaining 7 cases was the lump seen in the lower quadrants. This was probably due to more breast tissue in the upper quadrants. Bilateral breast involvement was seen only in 1 case of Fibroadenoma. Multiplicity was not seen.

Of the 23 cases diagnosed clinically as fibroadenosis after surgery and hisotpathological confirmation 20 cases were actually found to be fibroadenosis; the sensitivity of the clinical examination being 86.95%. After hisotpathological examination 1 case was found to have lipoma and 2 cases were found tuberculous mastitis.

Of the 23 cases diagnosed clinically as fibroadenosis in 19 cases (82.6%) the lump was seen in the upper quadrants of the breast. Only in the remaining 4 cases was the lump seen in the lower quadrants. Bilateral breast involvement was seen only in 2 cases fibroadenosis. Multiplicity was not seen.

For all the lumps excision / enucleation were performed. For large lumps a corrugated rubber drain was kept before closing the wound after surgery and removed 24hrs after the surgery. Post operative complications like hematoma, wound infection were not seen in any cases. But persistence of breast pain even after surgery and removal of the lump was seen in a few cases for which no reason could be attributed.

In King's College Hospital Breast Clinic, a study was conducted on breast conditions and 80% of the patients with breast symptoms were found to have benign breast diseases.

A case control study of benign breast diseases was conducted in Greater Boston in 1968-69. Fibroadenoma was the commonest benign breast disease and was found during the second decade, mostly seen in married nullipare. In this study Fibroadenoma was also the

most common benign breast making about 43.24% of the cases presented. None of the Fibroadenoma had constant relationship of risk with parity or with age at first birth in the Boston study. There is however no mention of the significance of tuberculosis in this study.
Also analysis of black women showed fibrocystic disease as the most frequent disease in both black and white patients between 25 and 45 yrs of age.
Most western studies have shown that oral contraceptive pills with decreased progesterone reduced risk of benign breast disease, while a study in the black population revealed no relationship between use of oral contraceptive pills and incidence of benign breast disease. The use of oral contraceptive pills is extremely low in the Indian population and the effects of them protective or otherwise cannot be ascertained with certainty. In the present study none of the women had used oral contraceptive pills.
Most of the Indian studies done are retrospective studies with consequent problems of emphasis. Only one study by Shukla and Kumar is a prospective study, done in patients with benign breast conditions presenting at the department of surgery, Varanasi in between 1985-87. 90% of the patients in this study were less than 40yrs. fibroadenosis, Fibroadenoma, tuberculosis, and mastalgia were common in these studies. Also most of these studies have been done in women in their 40's than in their 20's as subjected to biopsy to rule out the possibilities of malignant disease in the retrospective.

4. Discussion

For correct diagnosis of breast diseases, background knowledge of general features of individual breast diseases like incidence, age distribution, symptoms on palpation findings are very important. Benign conditions of breast are significantly more common than the malignant conditions in developing countries. The limited literature available suggests that benign breast disease is a common problem in the developing countries as well [x]. 74 cases were studied over a period of 28 months. The spectrum of breast lesions in female patients in our study showed 42.14% benign lesion. Malik [xi] in his study of 1724 cases over a period of 20 years reported benign lesions in 72.97% Similar results, were obtained by Iyer et al. in 2000 [xii] and Mayun et al. in 2008 [xiii]. In the present study, 55.07% of the benign lesions were noted in the patients below the age of 25 years. In the same age group, Malik [xi] noted benign lesions in 51.19% of the cases and Bauer [xiv] in 95% of the cases. The incidence is higher in the study
of Bauer [xiv] as the age group selected for the study was between 12-22 years. Lump in the breast was the most common presenting symptom in both benign and malignant groups followed by pain in 10.14% in the benign group and 12.12% in the malignant group. Dixon et al. [xv] conducted a study and found breast lump in 69%, breast pain in 50% and nipple discharge in 5% of cases. Griffith [xvi] studied frequency of presenting symptoms in benign breast diseases. He found common symptoms as lump in 33% of cases followed by pain and nipple discharge and noted that the patients may present with one or more of the symptoms. In the present study, fibroadenoma was the most common benign lesion constituting 43.24% followed by fibrocystic disease in 31.08% of the patients. The study by Malik [xi] reported 55% of fibroadenoma. It has been seen that in women between adolescence and the mid 20's, the lobules and the stroma may respond to hormonal stimuli in an exaggerated fashion with the development of single and multiple fibroadenomas [xvii]

5. Conclusions

Benign breast diseases is a common problem in women. A lump in the breast is the commonest presentation. Breast pain and nipple discharge are the other symptoms. Most of the patients have more than one symptom. The commonest age group which is affected is the 21-30 years age group. Among the breast lumps, fibroadenoma is the commonest, followed by fibrocystic changes and breast abscesses. The other lumps are relatively uncommon. Breast pain may occur alone or in association with a lump or a nipple discharge. The incidence of cyclical pain is 20% and that of non-cyclical pain is 13%. The nipple discharge, particularly if it is serous or greenish, is harmless. The clinical diagnoses of the benign breast lumps were accurate in 91.95 % cases.
The risk factors for developing invasive carcinoma in the patients with proliferative lesions were also identified and the patients were advised follow-up. Since there is no consensus on the morphologic risk markers, in future, molecular genetic markers may help in the risk stratification, which will help in a better clinical management.

6. References

i. Khemka A, Chakravarti N, Shah S, Patel V. Palpable breast lumps: Fine needle aspiration cytology versus histopathology, a correlation of diagnostic accuracy. Internet J Surgery. 2009;18:1.
ii. Cole P, Mark Elwood J, Kaplan SD. Incidence rates and risk factors of benign breast neoplasms. Am J Epidemol. 1978; 108:112–20. [PubMed]
iii. Hutchinson WB, Thomas DB, Hamlin WB, et al. Risk of breast cancer in women with benign breast lesion. J Natl Cancer Inst. 1980; 65:13–20. [PubMed]
iv. Kelsey JL, Gammon MD. Epidemiology of breast cancer. Epidemiol Rev. 1990; 12:228–40. [PubMed]
v. Sarnelli R, Squartini F. Fibrocystic condition and "at risk" lesions in asymptomatic breasts, a morphologic study of post-menopausal women. Clin Exp. Obstet Gynecol. 1991; 18:271–79. [PubMed]
vi. Cook MG, Rohan TE. The patho-epidemiology of benign proliferative epithelial disorder of the female breast. J Pathol. 1985;146:1–15. [PubMed]
vii. Mansel RE. Benign breast disease. Practitioner. 1982; 232:830–37.
viii. Sainsbury RC. Bailey and Love's Short Practice of Surgery. 25th. London: Edward Arnold Ltd.; 2008. Breast In: Norman

WS, Bulstrode CJK, P.Ronan O'Connel editors; pp. 827–35.
ix. Love SM, Gelman RS, Silen W. Fibrocystic disease of the breast – a non disease? N Eng J Med. 1982;309:1010–14. [PubMed]
x. Shukla HS; An outline of benign breast diseases. In Recent advances of surgery, 1992.
xi. Malik R, Bhardwaj VK; Breast lesions in young females. A 20year study for significance of early recognition. Indian JPathol Microbiol., 2003; 46(4): 559-562.
xii. Iyer SP; Epidemiology of Benign Breast Diseases in females of child bearing age group. Bombay Hospital Jr., 2000; 42(1): 141-146.
xiii. Mayun AA, Pindija VH; Pattern of histopathological diagnosis of breast lesion in Gombe, Nigeria. Nigerian J Med., 2008; 17(2): 159-162.
xiv. Bauer BS, Jones KM, Talbot CW; Mammary Masses in the advanced females. Surg Gynaecol Obstet., 1987; 165: 3-5.
xv. Dixon JM, Mansel RE; ABC of breast diseases. Symptoms assessment and guidelines for referral. BMJ, 1994; 309(6956):722-726.
xvi. Griffith CDM; Benign breast disease. In Sengupta BS, Chattopadhyay SK, Varma TR editors; Gynaecology for post graduates and practitioners. New Delhi: BI Publications, 1998; 464-475.
xvii. Clemons M, Goss P; Estrogens and the risk of breast cancer. N Engl S Med., 2001; 344(4):276-285.