



A CLINICO-PATHOLOGICAL STUDY OF BENIGN BREAST TUMOURS WITH SPECIAL REFERENCE TO ITS SURGICAL MANAGEMENT

General Surgery

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ABSTRACT

Introduction: A study has been conducted on the incidence rates of different benign breast tumors, their presentation and outcome beneficence of surgical procedures have been compared.

Material and methods: A total of 100 cases with benign breast mass, attending surgical department of RGKMCH and meeting the inclusion criteria's were studied in the given time period

Results: Fibroadenoma pre-dominates (94%) followed by Phyllodes tumour (2%), Intraductal papilloma (2%) and Lipoma (2%). The age group of 20 to 24 years showed the maximum number of cases. The all-benign breast tumours in the present study were managed in accordance with the types of tumour. All the fibroadenomas were excised locally

Conclusion: Fibroadenoma is the commonest type of benign breast tumours than other types. The treatments of benign breast tumours are simple excision and sometimes may require simple mastectomy.

KEYWORDS

Benign Breast Tumors, Incidence, Eastern India, Tertiary Care Hospital.

INTRODUCTION

The breasts are modified sweat glands which are capable of secreting milk. According to the mode of secretion they are apocrine type of exocrine glands.

A firm understanding of benign breast disease is important since sequential steps are necessary to distinguish lesions which impart a high risk of subsequent breast cancer from those which do not. Much confusion prevails regarding the etiology of the benign breast tumours. However, with the advancement of histopathological study of both autopsy and biopsy material of normal human breast helps in better understanding of abnormality of breast thus helps to correct the tendency to overrate the malignant potential of benign tumours of the breast. The treatment of benign breast tumours are always simple, safe, and always curable and the main stay of treatment is surgery.

The present study is based on consecutive random wise sample of cases of benign breast tumours collected from the cases admitted in the six surgical units of R G Kar Medical College & Hospital, Kolkata from 1st January 2019 to 31st July 2019. A humble effort has been made in this present study of benign breast tumours in the light of available published literature with following objectives:-

1. To find out the incidence of different types and clinical presentation of different benign breast tumours in present study.
2. To find out the incidence in different age groups and sex of patients suffering from benign breast tumours.
3. To study the surgical management of various benign breast tumours and its outcome.

Materials and Methods

It was an institution based, observational study conducted in General Surgery ward, General Surgery OT, General Surgery outpatient department (OPD) of R G Kar Medical College, Kolkata.

As per previous year statistics, it is estimated that about 100 such cases will comprise the total

sample size

Study Population - All patients with breast mass attending the Department of General surgery.

Inclusion criteria:

Patients suspected of having benign breast tumor.

Exclusion criteria:

1. Patients with proven breast carcinoma or having strong family history of breast carcinoma.
2. Patient who left against medical advice at any stage of the treatment

Study period- 1st January 2019 to 31st July 2019--for selection of study subjects and collection of necessary data from them. Collected data analyzed and report has been prepared in the next month.

Study design

It is an institution-based observational and prospective study, a randomized study. Written informed consent was taken from all cases. Approval was taken from institutional ethical committee. 100 patients admitted to the Department of General Surgery with suspected history of benign breast disease are randomly selected.

Study tools:-

PARAMETERS-

- 1 History taking in a pre-designed Proforma,
- 2 Examinations --General Survey, Local Examinations and Systemic Examinations
- 3 Laboratory Investigations like FNAC, Mammography, USG, Histopathological examination etc.

Study variables- Age Sex Comorbidities- Diabetes, Hypertension, COPD Immuno- suppressants Pregnancy Use of hormonal contraceptive pills

Method of data collection- After getting clearance from the ethical committee, the study has been conducted in the Dept. of General Surgery of R. G. Kar MCH. Patients fulfilling inclusion criteria were enrolled, informed consent were taken. The patients were interviewed based on the predesigned and pretested Proforma to elucidate the history, Clinical examinations done.

Statistical Analysis

Statistical Analysis was performed with help of Epi Info (TM) 7.2.2.2.

EPI INFO is a trademark of the Centers for Disease Control and Prevention (CDC).

Descriptive statistical analysis was performed to calculate the means with corresponding standard deviations (s.d.). Test of proportion was used to find the Standard Normal Deviate (Z) to compare the difference proportions and Chi-square (X^2) test was performed to find the associations. If any of the cell frequencies were found less than 5, Corrected Chi-square (X^2) test was performed to find the associations. One way analysis of variance (ANOVA) followed by Tukey's post hoc test was used to compare more than two means. $p < 0.05$ was taken to be statistically significant.

Result

The present study comprises of 100 cases of benign breast tumors attending in the out-patient department as well as indoor sections of the six surgical units of R.G.Kar Medical College & Hospital, Kolkata, from 1st January 2019 to 31st July 2019. During this period of study 3180 female cases were attended in six surgical units. Out of these female patients 100 cases of benign breast tumours were admitted. (3.14%)

INCIDENCE

In the present study majority of benign breast tumours consist of fibroadenoma (94%) and incidences of other benign breast tumours were viz. phyllodes tumour (2%), intraductal papillomas (2%) and lipomas (2%).

Table-1:

TYPES OF BENIGN BREAST TUMOUR	NO OF CASES	PERCENTAGE
FIBROADENOMA	94	94%
PHYLLOIDES TUMOUR	2	2
DUCT PAPILLOMA	2	2
LIPOMA	2	2
TOTAL	100	100

PIE DIAGRAM SHOWING VARIOUS BENIGN BREAST TUMOURS AND THEIR DISTRIBUTION

In the present series the highest number of Fibroadenoma were recorded in the age group of 20-40 years (36.17%).

All the recorded cases were female and not a single male case was recorded in this series. The age ranges were from 12 to 45 years old.

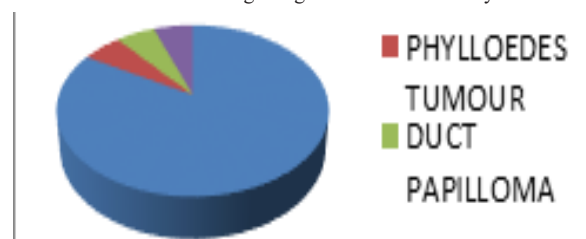


Chart 1: Relationship Of Benign Breast Disease and Marital Status Of Patient

Table 2

MARITAL STATUS	NO OF CASES	PERCENTAGE (%)
UNMARRIED	70	70
MARRIED	30	30
TOTAL	100	100

CLINICAL FEATURES

Most of the patients in the present series were presented with lump in the breast except 2 cases, which presented with nipple discharge. Out of this all cases 8 were presented with pain in the breast along with the lump. Das (2000)² found 18 out of total 120 cases were associated with pain. In large size phyllodes tumour the skin may become reddened and, in advanced can become frankly ulcerated and associated with pain (Oxford Text Book of Surgery. 1994).³

Table 3

PRESENTING SYMPTOMS	NO OF CASES	PERCENTAGES (%)
LUMP IN THE BREAST	98	98

BLEEDING FROM NIPPLE	0	0
INVERTED NIPPLE	0	0
PAIN	8	8
NIPPLE DISCHARGE	2	2
ECZEMA OF THE NIPPLE	0	0
SYMPTOMLESS	0	0

INVESTIGATIONS FOR DETECTING THE TYPES OF TUMOUR

The criteria for diagnosis of duct papilloma, multiple papilloma and papillary epithelial hyperplasia include slightly fluid sample, cellular smears. complex folded and branching sheet of epithelial cells, papillary stromal cores, long strips of palisaded epithelial cells, degenerative changes in epithelial cells, foamy cytoplasm, background of macrophages and bare oval nuclei (variable) as stated by Svante.¹⁰

Problems in diagnosis arises when there is overlap with epithelial hyperplasia, smear artifact, epithelial atypia, stromal tissue in other lesions) e.g. carcinoma, papillary lesion and infarction caused by previous aspiration (Thomas, 1995).⁹

Baitchev et al (2003)⁷ have shown that, preoperative intraductal cytology and galactography can be better guide in differentiating between benign and malignant lesions in patients with unilateral, spontaneous nipple discharge

Fine Needle Aspiration

Fine needle aspiration cytology still forms an important component of triple assessment of a patient presenting with a palpable breast lump (S. Balachandra et al. 2002).¹¹ Ward (1912)¹² used fine needle aspiration cytology to examine enlarged lymph nodes for lymphoma.

The below Table shows FNAC accuracy for detection of palpable benign breast tumours in the present series:

Table 4

FNAC accuracy	No of cases	Percentage (%)
Correct	98	98
Incorrect	2	2
Total	100	100

Drawback of the technique of FNAC resulting in unsatisfactory smears was reported by Tilde and Hunter (1976).⁴

Ultrasonography

The below Table shows USG accuracy for detection of palpable benign breast tumours in the present series.

Table 5

USG accuracy	No of cases	Percentage (%)
Correct	94	94
Incorrect	6	6
Total	100	100

Mammography

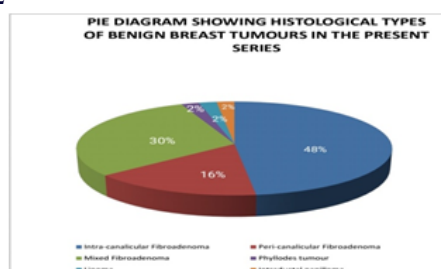
The below Table shows mammographic accuracy for detection of benign breast tumours in the present series

Table 6

Mammography accuracy	No of cases	Percentage (%)
Correct	94	94
Incorrect	6	6
Total	100	100

HISTOPATHOLOGICAL EXAMINATION

Chart 2



TREATMENT OF THE BENIGN BREAST TUMOURS

Fibroadenoma are commonly treated with local excision as stated in *Farquharson(10th edition)*.¹

Hughes et al (2000)⁵ recommended microdochectomy for intraductal papilloma with removal of small segmental area of breast in apposition to the distal part of the duct.

The Table shows the different types of operation undertaken in different types of benign breast tumours in the present series.

Table 7

Histological types	Local Excision	Micro-dochectomy	Simple Mastectomy
	No of cases with percentage (%)	No of cases with percentage (%)	No of cases with percentage (%)
Intra-canalicular Fibroadenoma	52 (52%)		
Peri-canalicular Fibroadenoma	32 (32%)		
Mixed Fibroadenoma	16 (16%)		
Phyllodes tumour			2 (2%)
Lipoma	2 (2%)		
Intraductal papilloma		2 (2%)	

FOLLOW UP

*Warren (1932)*⁸ also reported recurrence of fibroadenoma in the form of adeno fibrosarcoma in 2 cases (0.41%) out of 484 cases. In general, a visible margin of only 1 or 2mm for phyllodes tumour will lead to a local recurrence rate variously recorded as 20% (*Hajdu et al, 1976*).⁶

In the present series the patients were followed up to a period ranging from 1-7 months.

The Table shows the follow up period with recurrence of benign breast tumours in the present series.

Table 8

Types of Tumour	Follow up period (in months)	No of Recurrences
Fibroadenoma	1-7 months	No Recurrences
Phyllodes Tumour	1-7 months	No Recurrences
Duct Papilloma	1-7 months	No Recurrences
Lipoma	1-7 months	No Recurrences

DISCUSSION

This study entitled “*A clinico-pathological study of benign breast tumours with special reference to its surgical management*” was carried out in R G Kar Medical College and Hospital, Kolkata from January 2019 to July 2019 in 6 (six) Surgical Units and an attempt was made to evaluate the incidence, signs and symptoms, modes of diagnosis and different types of management for the different benign breast tumours.

All the cases were studied personally on the basis of clinical, radiological, cytological and histopathological aspects and a comparative analysis have been made to find the accuracy of each method.

In this study showed 100 cases of benign breast tumors with incidence of 3.14% out of 3180 female patients attended in outpatient department during the one year of study.

Fibroadenoma pre-dominates (94%) over all the benign breast tumors and the other tumours encountered in the present series were respectively, Phyllodes tumour (2%), Intraductal papilloma (2%) and Lipoma (2%).

The youngest case in the study was 12 years old female and the oldest was a female of 45 years. The age group of 20 to 24 years showed the maximum number of cases.

Higher incidences of fibroadenomas were found in nulliparous women than multiparous women.

The commonest presentation was a lump in the breast except two cases of intraductal papilloma, which presented with nipple discharge without a palpable lump in the present study. The size of the lump in fibroadenomas were ranged from 1 to 6 cm, phyllodes tumours were 9cm and 10 cm., lipomas were 4cm and 5 cm.

The maximum numbers of patients (40.8%) were presented with duration of 4 months of disease.

All the cases of fibroadenomas were presented with a lump and associated pain in 8 cases (8.5%), Bilateral - involvement of fibroadenoma were found in 8 cases (8%) in the present series. Two cases of phyllodes tumours also presented with huge lump with associated pain.

Preoperative FNAC, mammography and ultrasonography were done and found accuracy rate of 96%, 94% and 94% respectively.

Histological examination of the biopsy specimens were undertaken in the all cases post operatively. The commonest variety of fibroadenoma was found to be intracanalicular type.

The all-benign breast tumours in the present study were managed in accordance with the types of tumour. All the fibroadenomas were excised locally. The phyllodes tumours were treated with simple mastectomy. Microdochectomy was done for intraductal papilloma. The lipomas were managed by local excision of the tumour.

All the cases of the present series were carefully followed up for postoperatively. No evidence of recurrence could be detected in any cases in the postoperative period.

CONCLUSION

A clinico-pathological study of 100 Cases of benign breast tumours have been carried out from January 2019 to July 2019 in 6 (six) Surgical Units of R. G. Kar Medical College and Hospital, Kolkata, and following conclusions are described

1. Fibroadenoma is the commonest type of benign breast tumours than other types.
2. Benign breast tumours can be easily diagnosed by clinical, pathological and radiological investigations.
3. The treatment of benign breast tumours are simple excision and sometimes may require simple mastectomy.

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