

Original Article

Outline of Breast Diseases in Qatif Central Hospital

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ABSTRACT

Introduction: Breast diseases are common health problems especially among women. Data on the prevalence of various breast diseases in the Kingdom of Saudi Arabia is deficient since most of previously reported literature was focused on breast cancer. Although this study is hospital based, it can still shed some light on the distribution of breast diseases in the region.

Objectives: To review the pattern of breast diseases as seen in Qatif Central Hospital.

Settings: Qatif Central Hospital, Eastern Province, Kingdom of Saudi Arabia.

Methods: A retrospective analysis of all breast specimens received in the histopathology laboratory over a 14 year period (1988-2001).

Results: Eight hundred breast specimens from 753 patients (669 female and 84 male) were processed, representing 2.4% of all samples received in the laboratory during the same period. Out of 669 female

patients, 17% were diagnosed as inflammatory process, 56.2 % as benign proliferative lesions, 11.2 % as benign lesions of skin and soft tissues, accessory breast, fibrosis, breast hypertrophy or normal and 15.5 % as malignant neoplasm. Most of the breast lesions occurred at a young age. 87% of patients were <45 years of age, and although breast cancer is common (15.5%) with an average age of 45 years, fibroadenoma is the single most common breast lesion representing 37.8% of all females with a mean age of 23 years. Fibrocystic disease ranked third accounting for 12.3% with a mean age of 34 years. 30% of breast cancer occurred in women <35 years of age. The majority of male breast lesions were gynecomastia (81%), 3.6% were inflammatory and 2.4 % were neoplastic.

Conclusions: Breast diseases are variable and affect a wide age range in both men and women. The findings in this study can help launch future breast screening and awareness programs, which should cover younger females as compared to the practice in other countries.

KEYWORDS: breast, pathological diagnosis, Qatif region, surgical excision

INTRODUCTION

Breast is a superficially located organ subject to many changes during a woman's life and sensitive to hormones particularly estrogen, progesterone and prolactin. Anatomically most of the breast tissue is composed of fat surrounding the ducts and lobules, which explains why breast lesions take long time before discovery. Pattern of breast diseases in Saudi Arabia is inadequately studied and most data are focused on malignant disorders. This study is aimed at defining the spectrum of breast diseases in both males and females as seen in a 370 bedded secondary hospital, serving approximately a population of 500,000 and compared to other studies from the Kingdom.

MATERIALS AND METHODS

All breast specimens received in histopathology laboratory in Qatif Central Hospital over a period of 14 years between 1988 and 2001 were analyzed. Demographic and clinical data were collected from pathology requests including age, sex, affected side, and diagnosis. The cases were analyzed and classified into five groups:

- A. Inflammatory breast lesions, which include breast abscess, chronic mastitis granulomatous mastitis, fat necrosis, galactocele, ductectasia, foreign body (FB) granuloma, and lactation changes.
- B. Benign parenchymal breast lesions such as fibroadenoma, lactational adenoma, duct papilloma, fibrocystic disease, cysts, epithelial hyperplasia and fibrosis.
- C. Other breast lesions such as skin lesions, lipoma, accessory breast, hypertrophy and negative examination.
- D. Malignant lesions.
- E. Gynecomastia.

RESULTS

Eight hundred breast specimens from 753 patients (669 female and 84 male) representing 2.4% of all samples received in the laboratory during the same period were analyzed.

Female breast lesions accounted for 88.8% of the total with a mean age of 31.3 years. The inflammatory conditions (Group A) account for 17% with a mean age of 34 years, while benign

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Table 1

Distribution of female breast lesions

Diagnosis	No of Patients	% of Total	Mean Age
Group A			
Abscess	28	4.19	34.1
Chronic mastitis	21	3.14	34.0
Ductectasia	30	4.48	34.4
Fat necrosis	8	1.20	34.4
FB granuloma	3	0.45	29.3
Galactocele	8	1.20	36.3
Granulomatous mastitis	13	1.94	34.8
Lactational changes	3	0.45	32.3
	114	17.04	34.2
Group B			
Adenosis	5	0.75	27.4
Cyst	4	0.60	33.5
Duct papilloma	2	0.30	26.5
Epithelial hyperplasia	1	0.15	49.0
Fibroadenoma	253	37.82	23.1
Fibrocystic disease	82	12.26	34.3
Fibrosis	19	2.84	28.2
lactating adenoma	10	1.50	28.7
	376	56.20	26.2
Group C			
Accessory breast	25	3.74	28.8
Hypertrophy	5	0.75	26.0
Lipoma	5	0.75	31.0
Negative	23	3.44	37.9
Skin lesion	17	2.54	34.7
	75	11.21	32.9
Group D			
Malignant Cases	104	15.55	45.2
	104	15.55	45.2
Total	669	100.00	31.3

paryenchymal lesions (Group B) were the commonest accounting for 56.2% with an average age of 26 years. Group C (11.21%) were the least with a mean age of 33 years. Malignant breast lesions (Group D) comprised 15.5% with an average age of 45 years. Two hundred and fifty three patients (37.8%) were diagnosed as fibroadenoma which was the commonest lesion affecting the breast (mean age 23 years), 70% of them at 16-25 years of age and only 0.79% in their late forties. Fibrocystic disease accounted for 12.26% with a mean age of 34 years, 83% of them were 16-45 years of age and 14.6% were older. Other less common inflammatory conditions include breast abscess and chronic mastitis (7.3%), ductectasia, galactocele and granulomatous mastitis (7.6%). In group B, there were 10 patients with lactating adenoma, five patients with adenosis (mostly sclerosing adenosis) and a single patient with florid epithelial hyperplasia who developed ductal carcinoma four years later in the same breast. Group C were mostly accessory breast (25 patients) or a negative biopsy for cancer (23 patients). Seventeen skin lesions mostly of

Table 2

Common breast lesions in women according to age

Diagnosis	Age in Years									Total	%
	<16	16-25	26-35	36-45	46-55	56-65	66-75	76-85	>85		
Group A											
Abscess	1	3	12	11	1	-	-	-	-	28	4.1
Chronic mastitis	1	6	3	8	2	-	1	-	-	21	3.1
Ductectasia	-	7	7	14	2	-	-	-	-	30	4.5
Group B											
Fibro adenoma	8	177	51	15	2	-	-	-	-	253	37.8
Fibrocystic disease	2	21	22	25	10	2	-	-	-	82	12.3
Fibrosis	1	9	6	2	-	-	1	-	-	19	2.8
Group C											
Accessory breast	1	10	9	4	-	1	-	-	-	25	3.7
Negative	-	6	4	8	3	1	1	-	-	23	3.4
Skin lesions	1	4	3	6	3	-	-	-	-	17	2.5
Group D											
Malignant cases	-	4	27	34	18	9	6	5	1	104	15.5
Others (A,B & C)	1	19	22	20	5	0	0	0	0	67	10
Total	16	266	166	147	46	13	9	5	1	669	100

hemangiomatous origin were found. The results are detailed in Tables 1 & 2.

Most of our patients (86.6%) were in the reproductive age group (16-45). However, only 11.2% of them had malignant disease. On the other hand, in patients older than 45 years, the malignant disease outnumbers the benign ones (39 vs. 35) and all patients above 76 years had malignant breast lesions (six cases) as compared to 1.5% of patients between 16-25 years.

Malignant neoplasms comprise 15.6% (104 patients) with an average age of 45 years. Three fourths of the malignant breast diseases occurred in 26-55 years with 29.8% affecting patients <35 years of age and 11.5% involving patients older than 65 years.

There was a slight predominance of left breast involvement in all diagnostic groups with 45% affecting left side and 39.5% involving the right side. Bilateral diseases accounted for only 7%. In a large number of our patients (12.3%), the surgeon did not specify the side. The results are detailed in Fig. 1.

Among malignant cases, ductal carcinoma was the commonest representing 77% followed by medullary carcinoma, seen in seven patients. Lobular carcinoma affected six and another two patients had mucinous carcinoma. Other types were seen in six patients including a single patient of malignant phylloides tumor. This 28 years old female presented with a right breast mass clinically thought to be a fibroadenoma. Two patients had bilateral involvement at different times of ductal and lobular types (one each). There was a slight predominance of left breast involvement of ductal and lobular types (43 vs. 36 and 4 vs. 1 respectively),

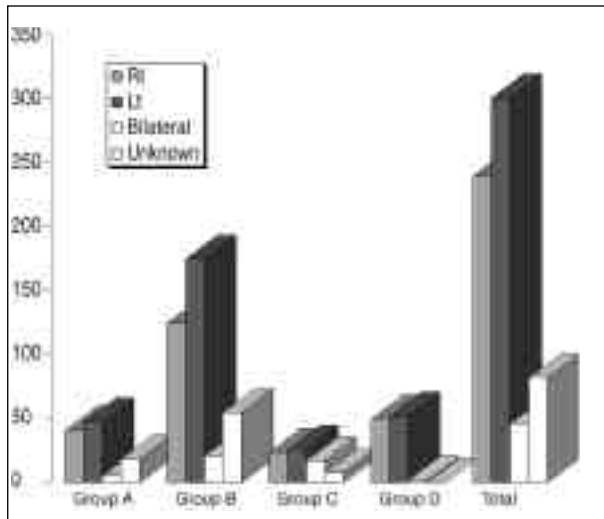


Fig. 1: Breast lesions in women according to side of involvement

while medullary and other types were more frequent on the right side. Table 3 shows detailed information about malignant cases including the side involved.

Male breast lesions represent 11.2% of breast lesions (n=84). Most of them were operated for gynecomastia (81%). This lesion involved the right side in 20 patients (29.4%) while the left breast was involved in 36.8% and bilateral disease was seen in 23.5%. The mean age was 25 years (range 13-75 years). Galactocele was diagnosed in a five years old boy. Abscess, chronic mastitis, fibroadenoma and fibrocystic disease were diagnosed in one patient each. Two patients of ductal carcinoma occurred in men at 56 and 65 years, both were in the right breast. Detailed results are shown in Table 4.

DISCUSSION

Breast is a modified sweat gland amenable to physical examination due to its anatomic location. However due to its unique anatomic composition, sensitivity to hormonal alteration and the ability to change in size and consistency, lesions might be hidden for long time before discovery particularly in this part of the world where additional social and religious factors play a role. The fear of breast cancer being the most common malignant neoplasm in women might stimulate women for regular self examination which will not only help in discovering breast lumps that are malignant in nature but also benign lesions which are in fact commoner, particularly in the younger age groups. Our study is a trial to define nature of breast diseases encountered in a community-serving hospital and to classify them according to their pathology. Although this is a hospital-based study and may not precisely represent the actual distribution of breast diseases in the community, it is still helpful in outlining the most commonly encountered ones.

Table 3

Malignant lesions in women

Diagnosis	Right	Left	Bilateral	Total	%
Infiltrating ductal carcinoma	36	43	1	80	76.9
Medullary carcinoma	4	3		7	6.7
Lobular carcinoma	1	4	1	6	5.7
Mucinous carcinoma	1	1		2	1.9
Metaplastic carcinoma	1			1	1
Papillary carcinoma	1			1	1
Anaplastic carcinoma	1			1	1
Squamous carcinoma	1			1	1
Adenocarcinoma	1			1	1
Mixed type	1			1	1
In situ ductal carcinoma	2	1		3	2.9
Total	50	52	2	104	100
%	48	50	2	100	

Table 4

Breast lesions in men

Diagnosis	No of Patients	% of Total	Mean Age
Group A			
Abscess	1	1.2	25.0
Chronic mastitis	1	1.2	39.0
Galactocele	1	1.2	5.0
	3	3.6	23.0
Group B			
Fibroadenoma	1	1.2	25.0
Fibrocystic disease	1	1.2	24.0
	2	2.4	24.5
Group C			
Lipoma	3	3.6	38.3
Negative	5	6.0	52.8
Skin lesion	1	1.2	57.0
	9	10.8	48.4
Group D			
Duct ca	2	2.4	60.5
	2	2.4	60.5
Group E			
Gynecomastia	68	81.0	25.4
	68	81.0	25.4
Total	84	100	28.6

There are only a few studies addressing the subject of breast diseases in Saudi Arabia and like ours, they are also hospital-based^[1-10]. Fibroadenoma accounted for 37.8%, which is higher when compared to 30.7% in another study from the eastern province^[1], 25% in Jeddah^[2] and 22% in Abha region^[3]. Fibrocystic disease represented only 12.3% in our series, which is much lower than 21.1% reported by Amr *et al*^[1] and 22% by Jamal^[2]. This might be due to sampling differences or change in the surgeon's selection of operated cases. Inflammatory lesions represented 17% of our cases which is similar to that reported by Hasi Sengupta *et al*^[4] but lower than 39% by Awatif *et al*^[3]. Malignant cases comprised 15.5% and are similar to another study from eastern province but lower than

that reported from Jeddah (32.5%)^[2]. The mean age of our carcinoma cases was 45 years, which is comparable to other studies from the Kingdom^[1-9]. The bulk of malignant breast conditions (75%) were found among young women (26-55 years) which concurs with previous reports of Amr *et al* and Akhtar *et al*^[11]. 29.5% of breast cancer cases occurred in those younger than 35 years as compared to 23% reported by Amr *et al*^[1].

With regard to male breast conditions, three fourths were gynecomastia which is not a serious medical problem in most of the cases. However, if it occurs in old men, it might be clinically confused with carcinoma. Jamal^[2] in her review of male breast lesions identified 54% as gynecomastia, which is a much lower figure than ours. 6% of our patients had a negative biopsy as compared to 9.5% in the same study. We had two patients with breast cancer, three times lower than that reported by the previously mentioned study^[2].

Breast screening programs are very useful in detecting breast cancer at an early stage. Although it is not a national program in the kingdom yet, when practiced nationally it should cover a younger age group as compared to those applied in the developed countries, because of the higher incidence of breast cancer in younger patients in our region.

CONCLUSION

Our study showed predominance of benign and inflammatory conditions over malignant lesions. However, no age group is protected against cancer. Our results are in general agreement with previously published studies from various parts of the Kingdom and the slight variations are most probably a reflection of a difference in surgical practice rather than authentic variation in predisposition to different breast diseases.

However more prospective community based studies are needed to further clarify the situation.

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