Breast diseases in Southern Yemen

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ABSTRACT

الأهداف: توضيح مدى خطورة الأمراض التي تصيب الثديين ونسبة انتشارها في كافة الفئات العمرية.

الطريقة: أجريت هذه الدراسة الاستطلاعية في مختبر حضرموت المركزي بمستشفى ابن سيناء، حضرموت، اليمن وذلك خلال الفترة من يناير 2006م إلى ديسمبر2009م. شملت الدراسة جميع المرضى الذين خضعوا للفحص السريري وتم تحويلهم من مختلف الوحدات الجراحية إلى المختبر المركزي من أجل إثبات التشخيص بواسطة الخزعة أو فحص الأنسجة، ولقد تم جمع بيانات المرضى من تقارير التحويل أو من المرضى أنفسهم.

النتائج: وصل عدد المرضى إلى 635 مريضاً، وكان عدد الإناث 604 مريضة وعدد الذكور 31 مريضاً. لقد كانت أورام الثدي الحميدة من أكثر الأمراض شيوعاً حيث ظهرت في 493 مريضاً (77.6%)، فيما تضمنت أورام الثدي الخبيثة 142 مريضاً. (22.4%) يعد الورم الغدي الليفي من أكثر الأورام الحميدة انتشاراً (40.5%)، يليه التكيس الليفي (16%)، ثم الأورام الحميدة الأخرى (10%)، والتهاب الثدي (8%). أما الأعمار التي ظهرت فيها هذه الأورام الحميدة فهي كالتالي: الورم الغدي الليفي في الفئات العمرية 29–20 عاماً، التكيس الليفي في 39–30عاماً، الأورام الحميدة الأخرى في 29–20 عاماً، والتهاب الثدي في 39–30 عاماً، فيما ظهرت الأورام السرطانية الخبيثة في الفئة العمرية من 49–40 عاماً. ولقد أصيب الثدي الأيسر بهذه الأورام في 331 مريضاً (52%)، وأصيب الثدي الأيمن في 283 مريضاً (45%)، في حين أصيب كلا الثديين في(3%) من المرضى.

خاتمة: يعد الورم الغدي الليفي من أكثر الأمراض الحميدة انتشاراً في حضرموت، حيث ينتشر في الفئات العمرية 29–20 عاماً، أما سرطان الثدي الخبيث فهو أقل انتشاراً غير أنه يكثر في الفئات العمرية 49–40 سنه، ولهذا فنحن بحاجة إلى توعية الناس حول خطورة التكتلات التي تظهر في الثديين.

Objectives: To investigate the magnitude of breast diseases, and its frequency distribution in different age groups in Hadramout, Yemen.

Methods: This is a prospective study conducted at the Central Laboratory of Ibn-Sinna Hospital, Hadramout, Yemen from January 2006 to December 2009. Patients attending surgical units for breast problems were eligible. Patients were assessed clinically and referred to the laboratory center to confirm the diagnosis by histopathology. The data were collected from the patients and referral sheets.

Results: A total of 635 cases of breast disease were diagnosed. This includes 604 female and 31 male patients. Benign breast diseases (BBD) was the most common lesion found in this study comprising 493 cases (77.6%), and 142 (22.4%) comprised malignant cases. Among BBD, the most common lesion was fibroadenoma (40.5%) followed by fibrocystic changes (16%), other benign breast lesions (10%), and inflammatory lesion (8%). The age groups affected by BBD were: 20-29 years for fibroadenoma; 30-39 years for fibrocystic change; 20-29 years for other benign breast lesions; and 30-39 for inflammatory lesions, and carcinoma of the breast was common in the 40-49 age group. The left breast was affected in 331 (52%) cases, the right in 283 (45%), while in 3%, both breasts were affected.

Conclusion: Fibroadenoma was the most frequently diagnosed benign breast lesion in Hadramout. An educational program is needed to alert patients of the significance of breast masses.

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Hadramout is a large governorate in Yemen covering an area of 161.749 square kilometers (29% of the total area of the country). Ibn-Sinna Hospital is the main central hospital in the capital, Mukalla, receiving patients from 3 wide areas covering almost all the south

Yemen distance, which are Mahra, Hadramout, and Shabwa. Up to the present, only one study described the profile of breast pathology in Yemen,[1] few studies in the region have focused on the overall pattern of female breast diseases,[2,3] and most breast studies have focused on malignant breast diseases.[4,5] The objective of this study is to identify the spectrum of breast diseases in our community in order to make a real and major steps for its management and prevention.

Methods. All women who presented to the surgical Outpatient Department of Ibn-Sinna Hospital, Hadramout, South Yemen with a complaint of breast disease from January 2006 to December 2009 were considered for this study. The data on clinical presentation and management was obtained from patients records on the referral sheets. Fine needle aspiration (FNA) and histopathology data were registered at the Central Laboratory of the hospital, which was established in 2001. All the results were merged to yield a total of 635 patients who were included in this study. Breast abscesses underwent incision and drainage without FNA or biopsy. Excluded were patients <11 years of age. Also excluded were patients with menstrual cycle related cyclical mastalgia.

Data on histopathological diagnosis, site of lesion, and women's age were analyzed by Statistical Package for Social Sciences version 16 (SPSS Inc, Chicago, IL, USA) to find means and standard deviations.

Results. Over this review period, a total of 635 women who presented with complaints relative to the breast provided data for this study. The age range of the patients was 11-80 years, the mean age is 32.61 (standard deviation: 13.432). Most patients were females (604 cases). All cases have a biopsy diagnosis (excisional or incisional, or both). A total of 493 patients had benign disease (including fibroadenoma, fibrocystic changes, congenital, inflammatory and other benign breast lesions), and the rest are malignant. **Tables 1** show the main classes of breast diseases, and the mean age affected. There was 100% correlation between the FNA results and the subsequent histopathological diagnosis. Among the benign breast diseases fibroadenoma was the most common findings in 258 patients. Fibrocystic breast disease in 99 patients was the next most common findings, and was followed by other benign lesions in 68 patients, then inflammatory lesions in 53 patients, and congenital diseases in 15 patients. Malignant breast disease was seen in 142 patients. Fibroadenoma was distributed among different age groups most commonly between 20-29 years (**Table 2**). Fibrocystic lesions were common in age group between 30-39 years (mean age of 30.64 years). Of the other benign diseases, gynecomastia occurs in 27 patients that represent 4% of all benign breast disease in our sample, which affects mostly the 20-29 age group. Chronic granular mastitis followed by duct ectasia then breast abscess are the main inflammatory lesions in our group, which affects the 30-39 age group. The most common congenital breast lesions was accessory breast in 15 cases representing only 2.4%, and in general is commonly presented at the age 20-29 years. The major malignant breast disease is invasive ductal carcinoma in this group comes in 123 patients affects mainly the age group 40-49 years and the mean age affected by malignancy is 48 years The left breast is the common site affected with benign and malignant diseases as shown in **Table 3**.

Table 1 - Distribution of breast diseases (N=635).

Type of disease	Frequency	(%)	Mean ± SD
Inflammatory	53	(8.3)	40.64 ± 12.370
Congenital	15	(2.4)	29.50 ± 10.893
Fibroadenoma	258	(40.6)	24.91 ± 7.021
Fibrocystic changes	99	(15.6)	30.64 ± 9.324
Malignant changes	142	(22.4)	47.85 ± 14.403
Benign lesions	68	(10.7)	7.24 ± 2.93

SD - standard deviation

Table 2 - Distribution of breast diseases in different age groups.

Age	Fibroadenoma		Fibrocystic		Malignant		Benign		Inflammatory		Congenital	
	n (%)											
10-19	66	(10.4)	6	(0.9)	0	(0.0)	12	(1.9)	0	(0.0)	2	(0.4)
20-29	131	(20.6)	31	(4.9)	10	(1.6)	25	(3.9)	8	(1.3)	10	(1.6)
30-39	55	(8.6)	43	(6.8)	34	(5.4)	22	(3.5)	23	(3.6)	3	(0.4)
40-49	5	(0.8)	13	(2.0)	42	(6.6)	7	(1.0)	13	(2.0)	0	(0.0)
50-59	1	(0.2)	4	(0.6)	17	(2.7)	1	(0.2)	4	(0.6)	0	(0.0)
60-69	0	(0.0)	2	(0.4)	22	(3.5)	1	(0.2)	2	(0.3)	0	(0.0)
70+	0	(0.0)	0	(0.0)	17	(2.6)	0	(0.0)	3	(0.5)	0	(0.0)
Total	**258**	**(40.6)**	**99**	**(15.6)**	**142**	**(22.4)**	**68**	**(10.7)**	**53**	**(8.3)**	**15**	**(2.5)**

Table 3 - The site of the breast affected with different breast diseases.

Sites of lesion	Type of diagnosis						Total
	Fibroadenoma	Fibrocystic changes	Malignant lesions	Benign lesions	Inflammatory lesions	Congenital lesions	
	n (%)						
Right	107 (16.8)	48 (7.6)	63 (9.9)	29 (4.6)	29 (4.6)	5 (0.8)	281 (44.3)
Left	143 (22.5)	45 (7.1)	76 (11.9)	38 (5.9)	24 (3.8)	8 (1.3)	334 (52.6)
Bilateral	8 (1.3)	6 (0.9)	3 (0.6)	1 (0.2)	0 (0.0)	1 (0.2)	19 (2.9)
Axilla	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.2)	1 (0.2)
Total	**258 40.6**	**99(15.6)**	**142 (22.4)**	**68(10.7)**	**53 (8.4)**	**15 (2.5)**	**635 (100)**

Discussion. The incidence of breast diseases in this part of the country over a 2-year-period seems to be high in relation to the number of our female patient's population compared to the reported number of cases in a previous study in this country,[1] and in nearby countries.[6] The possible explanation of this is: firstly, this is a hospital-based study carried out in a laboratory center, which is considered the only referral center for all this large area. Secondly, a few number of our patients preferred to go to other far centers of the country like Sana'a or Aden due to poverty. Thirdly, the fear and worry from cancer in our female population was clearly raised. Fourthly, Yemen females tend to marry at a young age, according to the traditional conservative values of the society, and these facts are reflected by the occurrence of many hormonal-related conditions. Finally, it is quite possible also that breast diseases are common in our patient population. However, the picture slightly differs from that in some African, European, and Asian regions where the incidence is higher.[7-9] The BBDs are the most common cause of breast problems in India,[10] and the aim of the treatment is to exclude cancer, then to treat any other symptoms.[11] In our study, 77.6% presented with benign breast lump, which is near to the result in a Yemeni study conducted by Al-Thobhani et al[1] who found 80% of cases had BBDs, but less in number than a study conducted by Adesunkanmi and Agbakwuru[12] in Nigeria, where 87.2% patients presented with benign breast lump. The most common benign breast lump in our study was fibroadenoma. The frequency of this lump in our study was 40.6%. which is quite higher from others that is 30.1%,[1] but is near to studies in Jeddah (47%) by Jamal,[2] and 42% in Nigeria by Adesunkanmi and Agbakwuru.[12] All these studies were not conducted in a specific age group.

Fibrocystic disease is the third common breast disease in our series, 15.6% patients presented with fibrocystic diseases, which is more than 11.5% by Memon et al,[13] but less than 27.4% by Al-Thobhani et al,[1] and 23% by Shabtai et al[14] in his study, and 22% by Jamal[2] in Jeddah. Inflammatory disease ranks the fifth in this study (8.3%), and this is different from another study, which was fourth in a Yemeni study (13.1%),[1] and the second most common lesion in a Saudi study (42.5%).[3] It could be explained that all masses diagnosed as or suspected to be malignant lesions are more likely to be referred to this center, rather than the inflammatory masses, since the expertise for management of inflammatory breast lesions exists in most hospitals around the center without referring them to the Pathology Department.

Cancer of the breast constituted approximately 22% of biopsies in our study. This result is comparable with results from other studies in the region, although it is quite less than that carried out in Jeddah, which was 32.5%.[2] A previous study in Yemen showed that in female patients, breast cancers along with gastrointestinal tract cancers were equally the most frequent malignancies.[5] Invasive ductal carcinoma was the predominant type in our study, affecting 19.4% out of 22.4% patients with carcinoma, a finding which is comparable with a study in Jeddah (27% out of 32.5%),[2] and that in Southeast Yemen (81.5%).[4] The mean age of our carcinoma patients was 47.8 years, which is close to that found in patients in other studies in Yemen,[4] Saudi Arabia,[2] Kuwait,[6] Bahrain,[15] and Jordan.[16] This study and reports from other Arab countries all conclude that the incidence of breast cancer is approximately 10 years earlier in Arab countries compared with Europe and America.[8] Factors such as age, genetics, racial, social, cultural, hormonal and dietary habits play a role in determining the trends of breast diseases in different countries. However, the overall results of this study are similar with studies performed in other Arab countries.[2,6,15,16]

The limitation of this study is that some patients of breast diseases were managed at rural and far hospitals without being referred to the central lab for histopathology, and other patients transferred to hospitals outside the region.

In conclusion, benign breast diseases are most common in Hadramout. While malignant breast diseases represents less than quarter of all cases, however they appear in a younger age group. Further studies are needed to show the incidence of breast diseases in all parts of Yemen, and to identify the factors which play a role in its occurrence.

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Related topics

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