Journal of Paediatric Surgeons of Bangladesh (2011) Vol. 2 (1): 12-16
Official organ of the Association of Paediatric Surgeons of Bangladesh

Journal of Paediatric Surgeons of Bangladesh

Original Article

BREAST DISEASES IN CHILDREN AND ADOLESCENTS – A TWO YEAR EXPERIENCE IN A PRIVATE HOSPITAL OF DHAKA

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Abstract

Aim and objectives: The aim of this study was to evaluate the spectrum of breast diseases in the children and adolescents in a single hospital and to evaluate the presentation and outcome of these diseases.

Methods: This prospective study of childhood and adolescents (2-19years) breast diseases conducted on 47 patients over a period from January 2009 to December 2011. A total of 47 (forty seven) children and adolescents (<19yrs) who complained of a breast lump or pain or nipple symptoms were included for the study. History, clinical examination along with breast ultrasound imaging and cytology and/ or biopsy in some cases was done for diagnosis. Patients were categorized according to their clinical properties and inflammatory, benign and malignant cases were done necessary operations. Other lesions was on medical treatment and under observation and follow-up.

Results: The commonest complain was lump followed by pain. Most patients present in the age group 16-19 years (87%). The commonest breast lesion was fibroadenoma(36%). Most of them occur in 16-19 years age group (29.7%). Fibrocystic disease (8.4%) and breast abscess(8.4%) are next 2 common diseases. Diagnostic approach is mostly conservative with ultrasonogram. Few cases need FNAC and excision biopsy. Secondary malignancy may be a possible diagnosis. Awareness is essential for early diagnosis and treatment.

Keywords: Breast diseases, children, adolescent

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Introduction

Childhood refers to the ages between birth and 15 years, but several age ranges can be used to define the period of adolescence. For the purposes of this document, adolescents are considered to be people 10 through 19 years of age.[1,2] Childhood and adolescent breast disease before the age of 20 is fairly uncommon.[1,3-5] As disease of the adolescent female breast is uncommon, the literature is deservedly focused on problems encountered in older age groups. Not with-standing this, a knowledge of the type of lesions commonly encountered in these young women is of great interest and practical use to both clinicians working in the area and those concerned with the health of adolescent females. Majority of breast disease among adolescents is benign, malignancies are rare, with reports in the United States being less than 0.1 per 100,000 pediatric cases per annum. [5-7] Specifically, fibroadenomas are most common in American adolescents. [3] Despite this, breast problems that do occur in young women present special problems of diagnosis and management. In the adult woman with a breast symptom, the 'triple test' is commonly regarded as the optimal diagnostic approach , i.e. physical examination, imaging, and cytology or histology. In very young women and adolescents, the approach should be more conservative, with mammography being contraindicated and cytology or histology being used less frequently.[3,8]

The Dr. Azmal Hospital is a private hospital situated at Mirpur, Dhaka was operating since 2005. Last

2 years we have worked in this hospital for screening and management of breast diseases in children and adolescents. The purpose of the current study is to describe the type and frequency of breast problems in female patients less than 20 years of age, who presented over last 2 years period.

Methodology

This is a 2 year prospective study of childhood and adolescent breast disease conducted in a well equipped private hospital of Dhaka over a period from January 2009 to December 2011. A total of 70 (seventy) breast cases were received in this period of study. Of these 47 (forty seven) breast cases were childhood and adolescent. Childhood refers to ages between birth and 15years, but several age ranges can be use to define the period of adolescent. For this study adolescents were considered people through 19 years of age. Virtually all children and adolescents (<19 yrs) who complained of a breast lump or pain or nipple symptoms were included for the study.

Other breast lesions of adults (more than 20 years old) were excluded. After enrollment clinical diagnosis was established by optimum clinical methods. History, clinical examination along with breast ultrasound imaging and cytology and/ or biopsy in some cases was allowed for reliable diagnosis in almost every case, with minimal trauma to the patient. All the patients were categorized according to their clinical properties. Inflammatory, benign and malignant cases were done necessary operation, other lesions was on medical treatment and under observation. Data was collected in a pre-tested questionnaire and data was analyzed.

Results:

This study was done in a private hospital of Dhaka in 47 children and adolescents over a period of 2 years. All the patients were female. Table 1 shows the age distribution of the cases. Patient's ages ranged from 2-19 years. The number of girls in each age group increased markedly with age, with only 6(12.6%) of the 47 being age 14 years or under, while 39(87.4%) were 15-19 years old.

Table-I

Age distribution of the patients

Age (years)	Numbers of girls (%)
<10	3(6.3)
11-14	3(6.3)
15-19	39(87.4)

Most of the patients visited because of presenting one or more symptoms. The commonest symptom was a lump in the breast (present in 74% patients) and the 2nd most common symptom was breast pain (42.5% patients). Small number of cases had nipple symptoms other than discharge and 1 patient present with nipple discharge. After clinical examinations and detail investigations no abnormalities were detected in 9(19%) cases. None of the girls had mammogram performed and 38(80.8%) pts had an ultrasonogram examination which was normal in 9(19%) patients and 29(61%) cases had a lump or thickening. The most common USG abnormalities noted were probable fibroadenoma (present in 36% pts) and fibrocystic change (present in 8.5%pts). Twenty seven girls had fine needle aspiration with cytology performed. Two showed suspicion of malignancy which was confirmed by excision biopsy. The commonest results were cells of fibroadenoma(n=15) and benign epithelial cells(n=9).

Eighteen girls had an excision biopsy performed after the initial visit. None except two has found malignant lesion in excision biopsy. Fifteen of the biopsies were fibroadenoma on histology, 1 of which was very large(5cm or more). One biopsy showed fibrocystic change.

The diagnosis of 47 cases at their initial visit, made on the basis of clinical examination and the above investigation is given table-II.

Most of the patients were in the age group 15-19 years (n=41). Only one case presented at the age of 2 years which was diagnosed as premature thelarche and was counseled to the parents accordingly. Another two girls presented at <10 years of age and diagnosed as normal breast bud. Fibroadenoma was the most common diagnosis (n=17) and 3(17%) girls had multiple fibroadenoma and one with fibroadenoma of both sides. Of 17 girls who had a diagnosis of

fibroadenoma on USG , 15 had a fine needle aspiration, all of them showing cells of typical fibroadenoma. Out of 17, excision biopsy done in 14 cases and 3 are now under observation due to smaller size(<1cm). One case was diagnosed as fibroadenoma in USG and FNAC but after excision it's histological feature was suggestive of fibrocystic disease. Only one case was more than 5 cm and pathologist described as giant juvenile fibroadenoma and others were < 5cm in diameter. Among all the patients, 4 cases were diagnosed as fibrocystic disease. One of them was diagnosed as fibroadenoma before excision biopsy, only this case has been excised and all other cases are under medical management, observation and follow up.

Table-II
Diagnosis

Diagnosis groups(years)	Number of Girls according to age		
	< 10yrs (%)	11-14yrs (%)	15-19yrs (%)
Premature thelarche	1 (2.1)		
Normal breast bud	2(4.2)		
Fibroadenoma		3(6.3)	14(29.7)
Fibroadenosis			1(2.1)
Neurofibroma			1(2.1)
Fibrocystic disease			4(8.4)
Breast abscess			4(8.4)
Mastitis			3(6.3)
Sebaceous cyst			2(4.2)
Eczema			1(2.1)
Lymphoma			1(2.1)
Leukaemia			1 (2.1)
No abnormality			9 (18.9)
Total	3 (6.3)	3(6.3)	41(87.4)

Among the inflammatory conditions 4 cases were breast abscess and 3 cases were mastitis. All breast abscesses had USG and were drained, antibiotic given after draining of pus and modified according to the report of C/S. All four cases were young lactating mother. Three girls presented with periductal tenderness and redish coloration of skin and were diagnosed as acute mastitis. All of the cases of mastitis were treated conservatively (with antibiotics), with complete resolution of the problem in weeks. Two girls came with sebaceous cyst and was excised and was under follow up. Two cases of malignancy found with atypical presentation, both them came with complain of breast lump and pain. In case of lymphoma it was single breast lump and FNAC and excision biopsy done and confirmed by histopathological examination. Patient with leukemia present with multiple painful lump in both breast and pt was toxic and febrile . On peripheral blood film and subsequently by bone marrow aspiration the diagnosis was confirmed. This patient was referred to pediatric hematologist for further management.

Discussion

Breast disease in children and adolescents are present with various presenting symptoms and varies in their diagnosis and management. Breast malignancy is a rare condition in adolescence, and therefore the approach to the management of breast disease in this young age group can be conservative. [8] The approach to diagnosis differs from that in older women in that mammography is not used and invasive procedures are much less common. Clinical examination, along with dedicated ultrasound imaging, and cytology in some cases, can allow reliable diagnosis in almost every case, with minimal trauma to the patient.[3] Of the 38(80.8%) ultrasounds, 9(19%) were normal . Of 20(42%) who presented with breast pain, no abnormality was found on ultrasound in 9(19%). Thus we often found no ultrasound abnormality to explain the symptoms with which the patient presented.

A clear diagnosis of the spectrum of conditions known as 'fibrocystic change' is not easy to make. Only 3 of these were clearly identified, on the basis of clinical and ultrasound features, excision biopsy for one of them. Six girls were aged less than 14yrs. In 2 of the girls aged <10 years, the cause for concern was identified as a normal breast bud. It is important for primary care practitioners to be aware that the onset of breast development (thelarche) precedes menarche and development of other secondary sex characteristics and that the breast bud, palpable as a rubbery subareolar discoid mass , may initially be unilateral and may not progress further for several months.[3,9-11] Excision or biopsy of the breast bud will result in failure or deformity of breast development.[3,4] Asymmetry in size of the breasts is also not unusual,

both during development and after development has ceased.[3]

In our study,fibroadenoma was the commonest abnormality diagnosed overall (36%) and was present in 30% cases in age group of 15-19 years. It was also the most common finding (83%) amongst those who had excision biopsy. This concurs with surgically generated series where the most frequent reason for biopsy was fibroadenoma.[3,12-13] However, excision biopsy is not always necessary where the clinical and ultrasound diagnosis in fibroadenoma. Excision of fibroadenomas is facilitated as the patient wishes it or lump size >3-4cm, but not for the purpose of exclusion of malignancy. While FNA is an essential part of the management of focal lesions in older women, needling of typical fibroadenomas in adolescents is considerably less critical.[14] Clinical review was done at regular interval. In our study, 17 of the girls with typical fibroadenomas were not subjected to FNA or excisions re-attended and of these were unchanged at review. In contrast, the largest excised fibroadenomas (>5 cm) had been enlarging rapidly in a 18 year-old girl. This last lesion was classified by the pathologist as a juvenile fibroadenoma. These characteristically occur in early adolescence and grow rapidly. Fibrocystic breast disease and breast abscess are 2nd most common lesion in our study. Fibrocystic disease is reported to fluctuate with menstrual cycle.[1,5] In our study 4 cases were breast abscess but in another study with larger population only 2 cases were breast abscess. [3]

Where there is a tender lump in the areolar area, a diagnosis peri-ductal mastitis can be suspected. It appears that there is a disease continuum from dilated sub-areolar ducts with or without associated inflammation. Fortunately almost all these conditions appear to resolve spontaneously.[3,7,15] In our series, there wre 3 cases of mastitis all the cases of peri-ductal mastitis were managed expectantly (with antibiotics and analgesic) and spontaneously resolution of their symptoms did occur.[7,15-16] In African children and adolescent's study there were no mastitis reported but in American study there were occurrence of mastitis.[1,3]

This discussion would not be complete without mention of breast malignancy in children and adolescents. Fortunately, this condition is rare, but 30 cases had been reported in the literature up to 1972.[9] Seven cancers described by McDi vitt, in girls aged 3 to 15,were noted to be less aggressive and more indolent than adult breast cancers and this has been noted by other authors.[3,9] Interestingly, these tumours may be unchanged over long periods of time and may present as an asymptomatic nodule near to but discrete from the nipple. A few cases of aggressive carcinoma have also been reported.[3] In our series, no primary breast malignancy was diagnosed but we get 1(one) lymphoma and 1(one) leukaemic infiltration in breast. If we count it as malignancy in our series 4.2% patients are with malignant lesion. Ozumba BC found only 2.5%(n=3) breast malignant breast disease among them 1 is primary and two other are secondary Non-Hodgkins Lymphoma and other carcinoma).[1] This result are almost similar to us but El –Tahmir reported an incidence of 15% in USA.[1,3]

Although normal thelarche occurs between 8 and 13 years of age, breast buds can appear in those as young as 1 to 3 years and have been reported to be present at birth. [7,11] Although the vast majority of patients with premature thelarche have no associated medical problems, hypothyroidism is a rare cause of premature thelarche that should be considered.[7,17] Premature thelarche is often an isolated condition but may be the first symptom of pre- cocious puberty, particularly in girls older than 2 years.[11] In our series 1 case of premature thelarche present without any symptoms of pre-cocious puberty. Two girls presented with normal breast bud complaining of lump and pain. In other studies also there have been some cases of normal breast bud. [3]

Conclusion

Fibroadenoma, fibrocystic disease and breast abscess are most common breast lesion seen in our childhood and adolescent population. Our experience over two years allows us to recommend a conservative approach to diagnostic intervention. Ultrasound examinations are good tools for diagnosis the cases. FNAC needed in some cases and clinical follow up is preferable. Some cases need excision biopsy to conclude the diagnosis and way to management. Infective and inflammatory conditions should properly manage with assurance and medical treatment. Secondary malignancy like lymphoma and leukemia may present with breast lump. Awareness is essential for early diagnosis and management of breast diseases in children and adolescents.

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