

Clinicopathological profile of breast lesions and their management in paediatric patients seen in a tertiary health facility in Southern Nigeria

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ABSTRACT

Introduction

Breast diseases are less common in the paediatric age group than in adults. Accordingly, less attention has been given to this group of diseases. Hence there is not enough literature on so many aspects including pathology, diagnosis, treatment and outcome. Commonly, surgeons and researchers apply the same principles deployed for adults.

Aims and Objectives

To evaluate the clinical and pathological pattern of paediatric breast diseases seen in our centre, and to review their treatment.

Methods

This is a four year retrospective review of cases of breast diseases seen in patients who are of age 18 years and less in our centre from July 2015 to May 2019. The data extracted were age, gender, clinical features, clinical diagnosis, laterality of breast lesion, treatment offered, histological diagnosis. The data were collated and analyzed using the SPSS 17.0

Results

One hundred and ninety one cases were analyzed. They comprised 29(15%) males and 162(85%) females giving a male female ratio of 1:6. The breast lesions were in the right breast in 84(44%) cases, in the left breast in 75(39.3%) cases and bilateral in 32(16.7%) cases. Breast lumps were the commonest clinical presentation, and fibroadenoma and fibroadenosis constituted 79.2% of cases. There were no malignant lesions.

Conclusion

Breast lesions are not uncommon among our paediatric patients. The majority of the lesions presented as breast lump in the teenage years. Fibroadenoma and fibroadenosis are the commonest breast lesions and malignant lesions were not encountered. Less invasive methods of diagnosis and treatment are recommended.

Key words: Breast–Lesions–Paediatric–Profile–Management

1 INTRODUCTION

The breast is well recognized as a common site of disease in adults, particularly the females. The most feared of the diseases of the breast is cancer of the breast. This is also the reason there is much interest in the breast among researchers and patients alike. [1] On the contrary, diseases

of the breast are much less common in the paediatric age group. Accordingly there is much less attention to diseases of the breast among the paediatric age group. This is more so in our region where there are very scanty reports on paediatric breast lumps. The fact that the breast in paediatric patients is still in its developmental stages, often very small, and most likely harbours lesions relatively different from those of adults, makes it imperative that the methods to be adopted for their diagnosis and treatment differs from the scenario in adults. [2, 3] This is however,

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often not the case. An understanding of the types of breast lesions seen in our environment among paediatric patients is needed to provide evidence for or against the treatment methods being adopted presently in our practice. Breast malignancies are rare in paediatric patients but they have been reported. [4] Furthermore, reports suggest that progressively younger adult patients are developing breast cancer than was previously the case. [5] Some of these patients though were diagnosed of their breast cancer in adulthood, may have developed symptoms while they were still in their teenage years. A closer look at the clinicopathological pattern of these breast lumps and lesions in our paediatric patients will certainly make way for early diagnosis and better treatment of these patients.

2 AIMS AND OBJECTIVES

To evaluate the clinical and pathological pattern of paediatric breast diseases seen in our centre, and to review their treatment.

3 METHODS

This is a four year retrospective analytical review of cases of breast diseases seen in patients who are of age 18 years and less in our centre from July 2015 to May 2019. The medical records and pathology reports of these patients were retrieved and scrutinized. Patients who had missing or incomplete records were excluded. The data extracted were age, gender, clinical features, clinical diagnosis, laterality of breast lesion, treatment offered, histological diagnosis. The data were collated and analyzed using the SPSS 17.0

4 RESULTS

Two hundred and seventeen patients were diagnosed with breast lesion during the period under review, but 26 were excluded due to incomplete records. One hundred and ninety one cases were therefore analyzed. They comprised 29(15%) males and 162(85%) females giving a male female ratio of 1:6. The age range was from 1 month to 18 years with a mean age of 13.1 (± 2.1) years. Table 1 shows the age distribution of patients. The breast lesions were in the right breast in 84(44%) cases, in the left breast in 75(39.3%) cases and bilateral in 32(16.7%) cases. The diagnosis was based on clinical assessment and or imaging only where a biopsy was not considered necessary. The distribution of patients according to the clinical diagnosis is shown in Table 2. The breast lumps were by far the commonest clinical presentation, constituting over (85%). Biopsy was performed as closed (using core needle) or open as excision or incision in the breast lumps, and the histological diagnosis are shown in Table 3. Fibroadenoma and fibroadenosis (fibrocystic disease) constituted 79.2% of cases. The distribution of the breast lesions according to the age of the patients is shown in Table 4.

Table 1. Distribution of patients according to age

Age group	Patients(n=191)	Percentages
0-3	26	13.6
4-7	11	5.8
8-11	15	7.9
12-15	54	28.2
16-18	85	44.5

Table 2. Distribution of patients according to clinical diagnosis of breast lesion

Clinical Diagnosis	Patients (n=191)	Percentage
Breast lump(neoplastic)	163	85.3
Breast abscess	8	4.2
Puberty mastitis	7	3.7
Mastitis neonatorum	6	3.1
Gynaecomastia	5	2.6
Cavernous haemangioma	2	1.1

Table 3. Distribution of patients according to histological diagnosis of breast lump

Histological diagnosis	Patients (n=163)	Percentage
Fibroadenoma	102	62.6
Fibrocystic disease	27	16.6
Benign phyllodes tumour	6	3.6
Juvenile papilloma	6	3.6
Chronic mastitis	5	3.1
Reactive dysplasia	4	2.5
Lipoma	4	2.5
Sebaceous cyst	4	2.5
Leiomyoma	2	1.2
Ductal papilloma	2	1.2
Tubular adenoma	1	0.6

Table 4. Distribution of breast lesions according to age group

Age(yrs)	0-3	4-7	8-11	12-15	15-18	Total (100%)
Breast lump	13(8.0%)	10(6.1%)	15(9.2%)	45(27.6%)	80(49.0%)	163
Breast abscess	5(62.5%)	-	1(12.5%)	2(25.0%)	-	8
Puberty mastitis	-	-	-	5(71.4%)	2(28.6%)	7
Mastitis neonatorum	6(100.0%)	-	-	-	-	6
Gynaecomastia	1(20.0%)	-	-	3(60.0%)	1(20.0%)	5
Cavernous haemangioma	1(50.0%)	1(50.0%)	-	-	-	2

5 DISCUSSION

Breast lesions are among the surgical problems seen in paediatric patients in our practice. These paediatric breast lesions present mostly as breast lumps. Other lesions of the breast seen were either diffuse enlargement or have features of inflammation indicating their infective nature. The breast lumps were mostly seen in the age range of 12 to 18 years which is the period of puberty development which indicates the possibility of the role of hormones in the development of

these lumps. The finding of fibroadenoma and fibroadenosis in the vast majority of the lumps is similar to the findings by other authors from other regions. [6, 7] We followed these patients up but not on a long term basis. However, a report of a case of recurrent fibroadenoma which ultimately transformed to a cysticercoma phyllodes and other reports of younger women developing breast cancer suggests that a long term follow up of these patients treated of breast fibroadenoma may be wise. [5, 8] The phyllodes tumours we saw in this study were treated with simple excision and there were no evidence of recurrence during the period of follow up. A similar study had reported only one case of recurrence in their series of eight cases corroborating the low incidence of recurrence with simple excision. [9] Inflammatory breast lesions and abscesses appeared to occur more in neonatal period and early infancy and were seen in both male and female patients. The reason for this neonatal occurrence is unclear. However some reports from other regions suggest that pressing the neonatal nipple to express the ‘witch milk’ in certain cultures may lead to it. This is not in our culture and we rather consider it as part of the features of neonatal sepsis commonly seen in our clime. We treated all cases of mastitis in neonates and infants medically, and deployed incision and drainage only when suppuration occurred. This is also the modality of treatment reported by other researchers. [10–12] The rest of the mastitis we encountered were mostly non infective occurring within the age range of 12 to 16 years which fitted into the age range reported for the highest incidence of puberty mastitis. They only needed reassurance and analgesics to resolve. The infective mastitis were treated with antibiotics, and if suppuration occurred, incision and drainage was carried out. Biopsy was taken in few cases where the features of inflammation were not clear, to rule out the inflammatory breast cancer which has been reported to be mistaken for mastitis. [13] The cases of gynaecomastia we encountered were mostly managed by counseling and reassurance to enable them overcome the embarrassment and psychosocial disorders which are recognized problems in that condition. [14–16] Subcutaneous mastectomy was performed only in one case of gynaecomastia secondary to intersex disorder. There was no case of ductal atresia in our series. This contrasts with report by McHoney et al in which ductal ectasia incidence was found to peak at about three years of age. [17] We put into consideration the small size or almost absent breast tissues (particularly in the neonates and younger children) in deciding the best modality of treatment. There have been controversies about whether to biopsy or not and what technique to use. The argument against biopsy is the risk of damaging normal breast tissues particularly due to the small amount of breast tissue at that age, and the possibility of not getting any additional information to guide treatment. This argument advocates more of the use of imaging in the diagnosis of these patients. [18] In our practice we withhold biopsy if clinical diagnostic features are strongly suggestive of mastitis neonatorum, gynaecomastia, haemangioma, and some cases of generally lumpy breast suggestive of fibroadenosis. On the other hand, in cases with obvious discreet breast

lumps, biopsy was obtained by either trucut or open incisional or excisional technique. We preferred the open biopsy technique over the trucut biopsy in the paediatric patients as it tended to give us more reliable results. Additionally, the open technique achieves cure when it is excisional. We are concerned that Core needle biopsy, being a blind procedure, may stand a higher risk of missing the lesion and of damaging normal breast tissues in paediatric patients when compared with the adult counterparts because of the relatively smaller breast tissue. The suggestion by some authors to adopt watchful waiting, after imaging or histopathological examination of biopsies established that a breast lump was benign, does not consider the psychological burden the presence of such a lump places on the patient. [19, 20]

It is reassuring that despite suggestions of a reduction in the age of incidence of breast cancer, there was no case in which malignancy was identified in our series.

This study has highlighted the fact that fibroadenoma and fibroadenosis are the commonest causes of breast lumps in female paediatric patients in our centre. They are mostly seen in their teenage years. There are no malignant breast lesions seen in our series. This is similar to the report by Cohen et al. [21] On the other hand, mastitis and abscess are the commonest breast lesions seen in neonates. Due to the peculiar nature of the breast and the lesions in children, we need to develop a standard protocol for diagnosis and treatment of breast lesions. A less aggressive and less invasive approach may be more suitable with more restraint on biopsies given the absence of breast malignancy in our series. This is in line with the recommendations by other researchers. [22–24] This approach has also been shown to be more cost effective. [25] However, a longer period of follow up may be more appropriate for patients who have had their fibroadenoma removed.

6 CONCLUSION

Breast lesions are not uncommon among paediatric patients in our centre. The majority of the lesions present as breast lump in the teenage years. Fibroadenoma and fibroadenosis are the commonest breast lesions and malignant lesions were not encountered. A less aggressive and less invasive approach may be more suitable with more restraint on biopsies in our patients. Longer periods of follow up in young girls who had biopsy for breast lump may be wise. Establishment of paediatric breast clinics may enhance a more focused and guided management of this group of patients.

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