Original Study

Breast Disorders in Girls and Adolescents. Is There a Need for a Specialized Service?

Lina Michala MRCOG, PhD *, Alexandra Tsigginou MD, PhD, Dimitris Zacharakis MD, Constantine Dimitrakakis MD, PhD

1st Department of Obstetrics and Gynaecology, University of Athens, Alexandra Hospital, Athens, Greece

A B S T R A C T

Introduction: Minor breast concerns in childhood and adolescence are common and lead to increased anxiety among young patients and their families, particularly due to high correlation with breast cancer. However, most breast services aim at managing adults and triaging patients with breast cancer, whereas adolescent medicine specialists or pediatricians are usually not appropriately trained to identify and treat breast pathology.

Methods: We reviewed hospital records of all patients attending a pediatric and adolescent gynecology or breast clinic of a tertiary referral hospital, with a breast related symptom, between January 2009 and December 2011. We collected information regarding age at presentation, age at menarche, diagnosis, management and outcome.

Results: We identified 81 patients of which 11 presented with an abnormal nipple or areolar secretion, 33 had a palpable lump, 20 had mastitis, and 16 had unequal breast development. One patient presented with virginal breast hypertrophy. Three out of 11 of the patients with an abnormal secretion had a cyst identified on ultrasonography. Out of the palpable lumps 12 were fibroadenomas, 3 were phyllodes tumors, and 14 were cystic in nature. The phyllodes tumors and half of the fibroadenomas were removed. The remaining fibroadenomas remain under regular ultrasonographic follow-up. All cases of mastitis were treated conservatively and resolved with broad spectrum antibiotic treatment.

Conclusion: In our series, no malignancies were identified. Although 8 patients required surgical treatment, the majority of cases were treated conservatively.

Key Words: Fibroadenomas, Mastitis, Adolescent breast, Breast discharge

Introduction

Although breast disease is common in adolescence, it is benign in the vast majority of cases.[1] Nevertheless, breast symptoms are likely to lead to increased anxiety in both the patient and her family. Further impacting on this is the fact that most breast services aim at managing adults and screening for breast cancer, whereas adolescent medicine specialists or pediatricians are usually not appropriately trained to identify and treat breast pathology.

We aimed to evaluate breast disorders in puberty by reviewing cases assessed in a tertiary referral hospital for obstetrics and gynecology.

Methods

This was a retrospective audit of children and adolescents under the age of 16 with breast-related symptomatology. We reviewed all patients that attended the adolescent outpatient clinic or the breast outpatient clinic of a tertiary referral hospital for a breast related problem between January 2009 and December 2011. We excluded patients presenting for assessment of pubertal status or premature thelarche.

Notes were reviewed and information on age, age at menarche, symptoms, imaging findings, and biopsy or cytology results were collected.

All Patients Were Treated according to Local Protocols as Follows:

Patients presenting with a nipple discharge were assessed clinically and by ultrasonography imaging and a sample for microbiology and cytology was sent. If galactorrhoea was suspected, a prolactin level was requested.

Palpable lumps were further assessed by ultrasonography and managed conservatively. Ultrasonography findings were categorized using the Breast Imaging Reporting and Data System classification. Large fibroadenomas more than 2 cm in size, or suspected phyllodes tumors were surgically removed. Fine needle aspiration (FNA) is rarely applied in younger patients, unless there is a strong suspicion for malignancy.

Equally, we tend to avoid mammography in younger patients as, due to increased breast density, results are often inconclusive. We also prefer to avoid unnecessary radiation exposure and excessive pressure to breast tissue that may be poorly tolerated in young patients.

Results

Eighty-one girls presented during this 3-year period with concerns regarding their breast (Table 1). Their median age was 14 years (range 9-16). 17 patients were premenarchal

The authors indicate no conflicts of interest.

* *Address correspondence to:* Lina Michala, MRCOG, PhD, 1st Department of Obstetrics and Gynaecology, University of Athens, Alexandra Hospital, 80 Vas. Sofias Avenue, Athens, Greece

E-mail address: linamichalas@hotmail.com (L. Michala).

1083-3188/$ - see front matter
http://dx.doi.org/10.1016/j.jpag.2014.05.011

Table 1
Types of Breast Disorders, Diagnosis, and Treatment

Breast Disorder	Number	Median Age y (Range)	Diagnostic Workup	Treatment
Nipple-areolar secretion	8	12.5 (10.5-14)	Smear for microbiology and cytology ultrasonography	None, follow-up
Galactorrhea	3	14.5 (14-15)	Serum prolactin	Normal levels (1) Discontinue causative medication (1) Cabergoline (1)
Palpable lump	33	15.5 (9-16)	Ultrasonography	Surgical excision (8) Follow-up: 6-month
Mastitis	20	12.8 (9-16)	Culture when nipple discharge obtainable ultrasonography	Broad spectrum antibiotics for 2 weeks
Anisomastia	16	13.5 (10-16)	Clinical examination and ultrasonography	Reassurance, no intervention recommended until late adolescence
Breast hypertrophy	1	11	Ultrasonography	Plastic surgery
Total	81	14 (9-16)		

and the remaining were at an average of 3 years after menarche.

Six patients presented with an abnormal discharge from the nipple and 2 from the areola. An associated cyst was identified in 3 cases. The discharge was clear and serous-like in 7 cases and blood tinged in one. When a sample could be taken in clinic, it was sent for cytology and microscopy and culture, which yielded no atypia or growth, respectively.

There were 3 cases of galactorrhoea, of which 1 had a normal prolactin level and 1 had moderately raised levels that came down once the patient stopped taking domperidone for oesophageal reflux. The third patient, aged 16, who had persistently high levels of prolactin and associated menstrual irregularities, was found to have a 9-mm pituitary adenoma and is currently on long- term treatment with cabergoline.

Of the 33 patient with a palpable lump, 12 had ultrasonographic masses consistent with fibroadenomas, Three were suspected to have a phyllodes tumor (confirmed by surgical excision) and 14 had a cystic lesion. Four cases had clinical findings consistent with a fibroadenoma but were lost to follow-up and therefore ultrasonography or other confirmation was not available.

The median size of the fibroadenomas was 21 mm (range 13-40). In 5 cases (out of the total 12), surgical excision was recommended, based on size of the lesion and clinical symptoms. Two of the excised fibroadenomas were confirmed on pathology to be juvenile fibroadenomas (size 30 mm and 40 mm respectively). The remaining 7 girls with fibroadenomas were treated conservatively and were on a 6 months follow-up by ultrasonography and clinical examination.

Two patients had phyllodes tumors which measured 42 and 35 mm in their largest diameter respectively, whereas a third patient presented with gross unilateral breast enlargement due to 2 phyllodes tumors, measuring 65 and 75 mm.

All patients that required an operation were followed up at 6 months post procedure and there were no cases of breast asymmetry noted.

Cystic lesions were followed up with regular ultrasonographic imaging and clinical examination. Of the 14 cases, 8 had resolved in 4 months, whereas 5 persisted, albeit in decreasing size. Four of the latter were further treated by paracentesis. Cytology and cultures did not yield any significant results.

20 patients presented with mastitis. Their median age was 12.8 (range 9-16). 5 patients were premenarchal, whereas the remainder 15 were at a median of 6 months post menarche (range, 2 months to 2 years). Presentation was with unilateral breast engorgement and pain. In half of the cases, there was associated pyrexia. Two patients required admission and intravenous antibiotics due to a persistent high temperature above 39°C. The remaining patients were treated with oral broad spectrum antibiotics. In 5 cases, there was a palpable lesion with ultrasonographic appearances of an abscess. All cases resolved with conservative treatment, within a median of 2 weeks after initiation of treatment. However, 3 cases presented with a relapse or recurrence in the following 12 months, which were again treated with broad spectrum antibiotics.

16 cases presented with unequal breast development as their sole complaint. Their median age was 13.8 (range 9.4-16). Clinical examination revealed a significant difference in size. No abnormal masses were palpated and the girls and their parents were reassured and advised to wait for potential balancing growth in later adolescence.

One case of gigantomastia was also evaluated. She presented at age 11 with a grossly enlarged breast. This had developed in a few months and was causing severe difficulties with body posture. The patient was referred for plastic surgery. Unfortunately, despite an initial successful bilateral breast reduction operation, she developed regrowth of the residual breast and required a second breast reduction procedure.

Discussion

Our series is one of a few looking at breast problems in children and adolescents and serves as a snapshot of concerns identified in this age group. On average 600 children and adolescents are referred to our hospital per year and approximately 4.5% present with a breast related disorder. The commonest presenting breast complaint was a palpable lump, followed in frequency by overt mastitis or a nipple or areolar discharge. Of those patients presenting with a mass, approximately half were diagnosed as having a fibroadenoma.