Breast fibroadenoma in female adolescents

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ABSTRACT

Palpable breast masses in pediatric patients are uncommon. Fibroadenoma which must be distinguished from malignant tumors is the most frequent breast tumor in adolescent girl. Fine needle aspiration (FNA) biopsy is highly specific in breast masses. The final cosmetic result is important when planning the surgical excision. Therefore it is mandatory to know preoperative cytology of the mass. Five girls who had undergone operation with breast masses between 1999-2004 were evaluated retrospectively. The mean age at presentation was 13 years. Each patient underwent FNA biopsy before excision. Aspiration cytology of the lump showed fibroadenoma confirmed by subsequent histopathology. The breast masses can be handled operatively through a circumareolar incision without any complication. Protection of the developing breast bud, nipple and areola is as important as appropriate excision of the lesion. Cosmetic results have been satisfactory and there has been no evidence of recurrence.

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Breast mass in childhood creates a difficult diagnostic and therapeutic situation. Accurate diagnosis is essential to discover the rare malignancy and to avoid deforming surgical therapy.[1,2] The majority of breast masses in the adolescents are fibroadenomas. Most of the masses are located by the girls themselves during physical examinations. Diagnosis can be made easily with needle aspiration for cytology. We present 5 cases with a palpable breast tumor and discuss its differential diagnosis and describe therapeutical strategies.

Case Reports. Five girls were admitted to our clinic with unilateral breast mass between 1999 and 2004. The mean age at presentation was 13 years with a range of 9 to 16 years. Lesions were located in the left breast in 4, and the right breast in one. The breast mass had been noted an average of 4 months prior to initial presentation. Physical findings were similar in all patients and included an easily palpable firm, discrete, nontender mass. Initial ultrasounds showed a homogenous and encapsulated tumors. There was a clear demarcation towards the fat tissue and the pectoralis muscle, without signs of infiltration or metastatic disease. Each patient underwent FNA biopsy before operation and diagnosis of fibroadenoma was reported (**Figure 1**). Removal was performed through a circumareolar incision in 4 cases. An inframammary approach was utilized in the patient with involvement of the entire breast. Operative treatment of the masses was performed with protection of the developing breast bud, nipple and areola (**Figure 2**). Diagnosis of fibroadenoma was confirmed with histopathology. No further therapy was undertaken in all patients. Cosmetic results have been satisfactory and there has been no evidence of recurrence at a mean follow-up of 40 months.

Discussion. The most common breast mass in teenage girls is fibroadenoma.[1,3,4] The peak age incidence is between 14 and 15 years, but younger girls also may have this lesion. The fibroadenoma appears as a firm discrete, movable mass, which may become from 2 to 15 cm diameter. The lesion is most often found in the upper, outer quadrant of the breast. On physical examination the mass appears to be a well-circumscribed, rubbery nodule, which changes its growth depending on menstruation.[1-4] Normally there is no involvement of the nipple. However, large fibroadenomas can show symptoms such skin changes as erythema or enlarged veins. Grossly, the fibroadenoma is firm, gray to white in color and well circumscribed. It may be dissected from normal breast tissue by keeping instruments directly on the tumor capsule. In 95% fibroadenoma the light microscopy reveals a fibroepithelial mixed tumor representing a hyperplastic reaction of the lobularly stroma

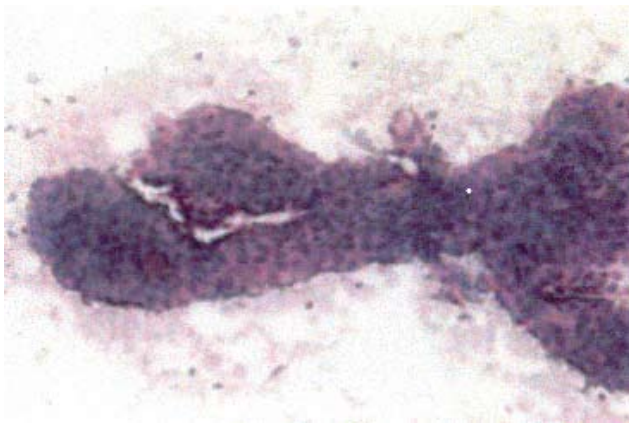

Figure 1 - Higher magnification of the aspiration of the case demonstrating a monolayered sheet of epithelial cluster with protections in an antler-horn pattern. Spindled myoepithelial cells within the cluster are also seen (May Grunwalt Giemsa x200).

Figure 2 - Operative treatment of the masses was performed with protection of the developing breast bud, nipple and areola.

with myxoid, fibrous-cellular or sclerotic tissue. A hormonal deregulation of gonadotropins is considered to be the main reason for such a development. The giant fibroadenoma represents only 4% of all fibroadenomas. This tumor is characterized by a rapid growth.[2] The breast can double in size in 3 to 6 months. The giant fibroadenomas usually have a cellular and dense stroma; however, the spindle cells lack cellular atypism or increased mitotic activity. In contrast to phylloid tumors they often show hyperplasia of ductal epithelium.[5] With respect to diagnostic strategies, ultrasound has become the method of choice.[6-8] Mammograms are not able to distinguish the different forms of breast masses in teenagers and adolescents because of the high density of the mammary glands in young girls. For the evaluation of persistent and worrisome solid masses, FNA offers a high degree of sensitivity and specificity for benign and malignant diagnosis. Needle biopsy of breast masses is very satisfactory if the pathologist is familiar with this type of material.[6,9]

In conclusion, FNA offers rapid and highly accurate diagnosis. The breast masses can be handled operatively through a circumareolar incision without any major complication. Protection of the developing breast bud, nipple and areola is as important as appropriate excision of the lesion.

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