Received: 9 March 2020 | Revised: 15 March 2020 | Accepted: 26 March 2020

DOI: 10.1111/tbj.13834

COMMENTARY

The Breast Journal WILEY

A retrospective evaluation of pediatric breast fibroadenomas with mid-term follow-up results

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Keywords: child, fibroadenoma, follow-up, recurrence, surgery

Although fibroadenomas with a number of histologic variants are the most commonly encountered breast lesions in children and adolescents, there are no specific guidelines for their management in this age group.[1,2] Moreover, although they are generally known to re-occur, data about exact recurrence rate and rate of development of new fibroadenomas are scant in medical literature.

The files of children who underwent surgery for removal of breast masses between 2015 and 2019 were retrospectively evaluated with an institutional ethical committee approval (2020/0082). Follow-up records were taken from the hospital database. Histological slides were retrieved and re-evaluated by a single pathologist with standardized criteria.[3] A tumor recurrence was defined as the occurrence of a mass lesion at the same quadrant of the breast with the prior lesion, and all other newly formed masses were accepted as metachronous lesions.

A total of 18 fibroadenomas were removed from 15 females with a mean age of 16.7 ± 1.3 years (range, 12.6-18.0 years). The mass was "hypoechoic" in 15 and "hyperechoic" in one by ultrasound. The mean length of the masses on the longest axis was 33 ± 14.7 (range, 14-73) mm. The masses were in the right breast in 7, in the left in 7, and bilateral in 1. The localization within the breast was upper-outer quadrant in 8 masses, upper-inner in 7, lower-outer in 1, and retroareolar in 1. The mean time interval from the initial ultrasound examination to the surgery was 3 ± 3.9 months (range, 3 days-13.5 months). The most common indications for surgery were pain and patient preference including family and/or patient anxiety. A singular bilobulated mass defined by ultrasound was found to be 2 separate masses during surgery. A bilobulated and another trilobulated singular mass was initially reported as multiple masses by ultrasound. Gross complete removal of the masses was done in all. There were 11 (61%) simple, 6 (33%) cellular, and 1 (6%) juvenile fibroadenomas. The patient with the juvenile fibroadenoma was aged 12.6 years. Sixteen masses were removed intact, and two were piecemeal. The surgical margin of the 16 masses which were removed intact was complete with a surrounding rim of nonlesional breast tissue in 15, and it was focally breached by tumor in one on histopathology. Twelve (80%) patients were under follow-up for a median duration of 3 years. Newly formed breast masses were detected in 5 (42%) of these, and all were confirmed by control ultrasounds done 7 ± 10.5 (range, 3.4-38.2) months after the surgery. The newly formed masses were in the same breast in all patients. The lesions were recurrent fibroadenomas in two patients, metachronous in two, and both recurrent and metachronous in one. Tru-cut biopsies were done in two patients, one with a metachronous mass and the other with a recurrent one at the relative ages of 20.3 and 20.8 years because of increase in the mass size during follow-up. They both revealed simple fibroadenomas.

Fibroadenomas are typically easily demarcated masses on palpation and most commonly found in the upper-outer quadrant of the breast with an equal side predilection as in the present series.[1] Ultrasound reports showed some diversity in description of the mass in our series as well as in previously published series.[4,5] Among histological subtypes, cellular fibroadenomas have overlapping histopathological and radiological features with phyllodes tumors which are practically indistinguishable by ultrasound imaging.[5] There are absolutely no determinative features to distinguish between a fibroadenoma and a malignant phyllodes tumor by core

biopsies.[2,6] Juvenile fibroadenomas are known to occur more commonly in younger children and have a tendency for rapid growth.[2,3] The child with juvenile fibroadenoma was the youngest patient in our series. Histological parameters including stromal hypercellularity and positive surgical margins were found to be unrelated to the risk of recurrence previously.[3]

Diagnostic evaluation and clinical management of pediatric breast masses lack algorithms. Yet, conservative follow-up for pediatric breast masses is recommended by most authors mainly because the incidence of malignant breast tumors is very low in children and also a malignant change in a fibroadenoma is rare.[2] In a substantial number of children, the main surgical indication was anxiety and worry of the patient and the family despite all the reassurance about the low incidence of malignancy development in this age group as in the present series.[1,4,6,7] In one report, only one third of the children agreed to undergo a period of observation before surgery.[7] Most interactions with the patient lack clear information about the chances of recurrent or metachronous tumor development after excision because of limited data. A survey study among females who had undergone < 5 cm fibroadenoma excision between the ages 13 and 35 years showed a cumulative rate for a newly developed fibroadenoma after excision was 40.8% within a median follow-up time of 13.5 years.[8] This is a very similar figure obtained in our study.

In conclusion, both recurrence and development of metachronous fibroadenomas seem to occur quite frequently after surgical excision in pediatric age group. This is an important issue that should be addressed by surgeons during discussing the treatment options with the patient and the parents.

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