Breast Disease in adolescents

Amish Dalal
Jaslok Hospital, Bhatia Hospital & Parsee General Hospital, Mumbai

The WHO Expert committee has defined adolescence as the period between age limits of 10 to 20 years. This is the period during which there are marked changes in all organ systems secondary to changes in the hormonal milieu. Adolescence can be broadly divided into the early phase (10-14 years) and the latter phase (15-20 years). With the onset of puberty in the early phase of adolescence the girl undergoes major physiological and physical changes well documented in various texts (Krishna, et al 1991). One of the areas of development is the breast, which progresses through 5 stages of maturation. It is important to recognize these stages and avoid unnecessary biopsies in physiological "lumps". Rarely do lumps appear in breast before puberty and these may be malignant.

Breast problems seen in adolescent girls may be secondary to abnormalities in breast growth and physiological aberrations. These may result in not only physical abnormalities but also affect the girl psychologically. Hence it is important to recognize the problem for reassuring the girl that a solution to her problem would be possible after her reaching adulthood. Some of these abnormalities or aberrations are:

1. Failure of development of the breast. This may happen with Turner's syndrome and congenital adrenal hyperplasia or it could be a delayed development wherein the breast may develop post puberty but is likely to be a rudimentary breast. If the girl is affected psychologically, reconstruction by plastic surgery could be offered after the girl has attained adulthood.
2. Precocious development. The girl has to be investigated for a hormonal cause at the hypothalamus, pituitary, adrenal or ovarian level. The treatment would be cause related.
3. Adolescent hypertrophy. This condition also could have an endocrinopathy at the hypothalamus-pituitary level as the cause. It may be unilateral or bilateral. The girl may complain of shoulder or neck pain, which is because of the additional weight borne by the spine. Reduction mammoplasty may be indicated in some girls for cosmesis or for reducing the strain on the spine.
4. Nipple discharge. This problem could be physiological in rapidly growing breast and is associated with menstruation. It may be seen in girls taking oral contraceptive pill. A milky discharge from the nipple may be an induced discharge (induced by repeated stimulation of the nipple) or one following Sheehan's syndrome, hypothyroidism or secondary to pituitary adenomas. A pathological cause for bloody, serous or sero-sanguinous nipple discharge is intraductal papilloma. The papilloma may be single or multiple and occurs in about 5% of the patients (Rosen et al 1980.) and is termed as juvenile papillomatosis. Clinically there may be no significant findings except a bloody discharge on pressing one area of the breast near the areola. The treatment of this condition is surgical excision of the duct showing the discharge (microdochectomy).

Benign Breast Changes

This condition has been known by many names such as mastopathy, fibroadenosis, breast dysplasia, fibrocystic disease etc. It is the commonest breast related problem in women till menopause. It encompasses various morphologic changes with more or less similar clinical manifestations, which are really physiological aberrations possibly secondary to hormonal (hyperestrinism) imbalance. This occurs most often with anovulatory cycles. The basic morphologic changes are 1) fibrosis 2) cyst formation 3) epithelial hyperplasia 4) sclerosing adenosis. The various pathological variants are difficult to distinguish clinically except the variation in which cyst formation is prominent. Most often the girl complains of breast pain which may be cyclical or non-cyclical, unilateral or bilateral. Cyclical breast pain starts few

days before the menstrual periods and usually disappears after the beginning of menses. Non cyclical breast pain occurs at any time during the menstrual cycle and does not wax or wane with the menses. Often the non-cyclical pain is severe and more difficult to treat. Clinically the patient has diffuse unilateral or more often bilateral mass. There is variable tenderness on palpation ranging from mild to excruciating to the extent that she may not permit examination. The clinical importance of this entity is in its recognition so that if there is no palpable mass the patient can be reassured that no active treatment is required if the mastalgia is mild or moderate but lasting for a few days only. If the pain is severe the treatment options are Gamolenic Acid capsules or Danazol tablets. The predisposition to carcinoma at a later age is negligible if at all. Only those patients with the biopsy showing sclerosing adenosis or epithelial hyperplasia and with family history of breast carcinoma have a minimal increase in risk of developing breast carcinoma.

Fibroadenoma

This is the commonest palpable mass in the adolescent breast. 10% of all fibroadenomas occur in the 10-20 years age group. These masses are solitary or sometimes multiple in one or both breasts. They are discrete, mobile within the breast tissue and have a pseudocapsule. Most of them are small(2-3cm) and are discovered accidentally. Some may grow to very large size and are labeled as giant fibroadenomas. Clinically they may be difficult to distinguish from cystosarcoma phyllodes. The standard treatment for fibroadenomas has been enucleation of the adenoma. However if they are multiple, small and in both breasts there is an option of close observation. Some may regress if very small and only those that are growing or becoming clinically visible may need removal.

Fat Necrosis

Adair & Munzer(1947) reported on a large series of patients with fat necrosis. The age distribution was from 14-80 years. This clinical entity is important only as it can be clinically confused with a carcinoma when the fibrotic reaction around the fat necrosis is severe. The cause of fat necrosis is thought to be repeated trauma though 50% patients have no history of trauma.

Carcinoma

Carcinoma in adolescents is very rare, only a few cases having been reported in children before puberty, and rarer still in adolescents. (Haagensen 1986, Warrren 1946).

Conclusion

The commonest breast related problems in adolescence are benign breast changes, fibrodenomas and nipple discharge. Clinical evaluation is most important and should be supplemented by ultrasonography as an imaging modality and fine needle aspiration cytology for confirming diagnosis. Mammography is generally not indicated and gives little useful information in a young dense breast. Surgery would be indicated in large fibroadenomas or for confirming pathology and for bloody nipple discharge. It is rarely required for benign breast disease.

References

1. Adair F. E. and Munzer J. T. Am. J. Surg.: 74; 117; 1947.
2. Haagensen C. D: Diseases of the breast. Philadelphia. W. B. Saunders. 1986.
3. Rosen P. P. Cantrell B. Mullen D. L. Depalo A. Am. J. Surg. Pathol; 4:3,1980.
4. Usha Krishna, Shashank Parulekar, and Vinita Salvi (Editors) The adolescent girl FOGSI. 1991.
5. Warren S. The prognosis of benign lesions of the female breast. Surgery, 19: 32 1946