Premature thelarche: A guide for parents and patients

What is premature thelarche? “Thelarche” is a medical term referring to the appearance of breast development in girls, which usually occurs after age 8 and is accompanied by other signs of puberty, including a growth spurt. Premature thelarche is the term we use for girls who develop small breasts (often an inch or less across), typically before the age of 3 years. Girls with premature thelarche do not have other signs of puberty. A girl who has started puberty will show an increase in the size of the breasts within 4-6 months, but a girl with premature thelarche can go a year or more with little or no change in the size of the breasts, and in some cases they will get smaller. Usually both breasts are enlarged but in some cases it only affects one side. Girls with premature thelarche usually have their first menstrual period at a normal age.

What causes premature thelarche? We do not know what causes this. Because some girls with this condition will have tiny cysts in their ovaries on ultrasound, one theory is that one of these cysts may produce a tiny amount of estrogen (female hormone) and then disappear, but the effect of the estrogen on breast tissue may persist for a long time.

How is premature thelarche diagnosed? In a girl who has breast development before age 3 years, often all that is needed is patience and observation. At such an early age, true precocious puberty is rare, so any girl with breast development which scarcely changes over time and who is growing at a normal rate on the growth chart is likely to have premature thelarche. Thus, many doctors will order no tests. Some doctors order blood tests, the most useful ones being a pituitary hormone called LH, which should be low, and the major estrogen hormone called estradiol, which should be normal for age or slightly increased. Some doctors will also order a left hand X-ray (also called a bone age), but it is rare for the bone age to be significantly advanced in cases of premature thelarche. For girls who develop breasts between the ages of 6 and 8, premature thelarche is still possible but true precocious puberty is more likely, so careful monitoring is more likely to show changes in the amount of breast tissue over time, and testing is more likely to be needed.

How is premature thelarche treated? Since this condition by definition does not progress and there are no complications, there is no treatment. These girls should not be seen by a surgeon, as breast cancer is unheard of at this age and surgery should never be considered. Follow-up studies have shown that it is uncommon for a girl with premature thelarche starting before age 3 to develop true precocious puberty at a later age, and these girls go through normal puberty at a normal age.

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