Excess Weight Could Affect Onset of Puberty in Girls

Girls with obesity are more likely to experience high levels of reproductive hormones and slowed breast development.

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Young girls with obesity generally enter puberty and begin menstruating earlier than their counterparts with a normal weight. Now new findings published in the Endocrine Society's Journal of Clinical Endocrinology & Metabolism suggest that those with excess body fat take a little longer to develop fully mature breasts and have higher reproductive hormone levels.

For the study, researchers assessed 90 girls between ages 8 and 15 during a four-year period. Thirty-six girls had obesity, and 54 had a normal weight. Scientists measured participants' total body fat, rated their sexual maturity with a standard visual assessment, administered breast and pelvic ultrasounds, and gauged hormone levels in blood samples. In addition, investigators recorded the girls' age at menarche (their first period).

Results showed that girls with excessive body fat totals were more likely to exhibit variations in reproductive hormone levels and slowed breast maturation and experienced the onset of their period at an earlier age than those with less total body fat.

Researchers noted that in mid- to late puberty, girls with greater total body fat registered higher levels of certain reproductive hormones, such as follicle-stimulating hormone, inhibin B and male hormones like testosterone.

"In some girls with higher total body fat, higher testosterone levels were associated with irregular menstrual cycles, acne and excess body hair," said Natalie D. Shaw, MD, a principal investigator with the National Institute of Environmental Health Sciences in Durham, North Carolina, and the study's author.

"In late puberty, girls with greater body fat also showed delayed breast maturation, as determined by breast ultrasound, and earlier menarche," she added. "There were no differences in maturation of the ovaries or uterus as a function of body fat."

In conclusion, Shaw stressed that additional studies are needed to observe the long-term consequences of these variations in markers of puberty.

For related coverage, read “Early Puberty in Girls Increases Adult Breast Cancer Risk. Here’s Why.”

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