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Use of Metformin in Obese Adolescents

Weight loss at 1 year was not clinically significant.

Metformin has been used to reduce weight in obese adolescents, although long-term success is uncertain. In this multicenter double-blind trial, researchers randomized 77 nondiabetic obese adolescents (age range, 13–18 years) to receive extended-release metformin (2000 mg) or placebo daily for 48 weeks after a 1-month placebo run-in period. Both groups had 10 weekly individual lifestyle and nutritional counseling sessions followed by monthly sessions.

At 1 year after enrollment, mean adjusted body-mass index (BMI) had decreased slightly but significantly (–0.9 kg/m^2) in the treatment group compared with an increase (+0.2 kg/m^2) in the placebo group (based on 27 patients who completed follow-up). This difference in BMI is equivalent to a 3-kg weight loss in an adolescent with a height of 165 cm. The difference between groups persisted for 12 to 24 weeks after treatment was stopped but disappeared after 2 years. No significant differences were found in numerous secondary outcomes, including body composition and insulin indices.

Comment: The results of this study are disappointing. Metformin had little effect on BMI. The weight loss that occurred did not persist after the drug was stopped and was substantially less than the loss that is considered clinically significant (5% to 10% of baseline weight). The possibility remains that longer-term treatment with metformin might lead to greater weight loss.

— ***Howard Bauchner, MD***

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Wilson DM et al. Metformin extended release treatment of adolescent obesity: A 48-week randomized, double-blind, placebo-controlled trial with 48-week follow-up. *Arch Pediatr Adolesc Med* 2010 Feb; 164:116.

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