

Cefazolin Prophylaxis in Obese Women Undergoing Cesarean Delivery: A Randomized Controlled Trial

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Obstetrics & Gynecology. 125(5):1205-1210, May 2015.

OBJECTIVE: To compare adipose tissue concentration among obese women receiving 2 g compared with 3 g of precesarean cefazolin prophylaxis.

METHODS: This was a double-blind randomized controlled trial of women with singleton gestations and body mass indexes (BMIs) of 30 or greater at their first prenatal visit undergoing cesarean delivery at term. Women were randomly allocated, stratified by BMI, to receive 2 g or 3 g of cefazolin. Subcutaneous adipose tissue was harvested twice: before (opening) fascial incision and after (closing) fascial closure. The primary outcome was opening adipose tissue cefazolin concentration, measured by high-pressure liquid chromatography.

RESULTS: From April 2013 to July 2014, 58 women were enrolled, 57 included in the analysis: 28 in the 2-g group and 29 in the 3-g group. Baseline characteristics were similar between groups. Median opening adipose tissue concentration was similar between the 2-g and 3-g groups (9.4 [interquartile range 5.1–13.4] compared with 11.7 [interquartile range 7–18.3] micrograms/g, $P=.12$). The percentage of women with opening concentrations above 8 micrograms/g, the minimally inhibitory concentration of cefazolin for *Staphylococcus* species, was similar (61% compared with 72%, $P=.35$). All samples were above 2 micrograms/g, the minimally inhibitory concentration for *Enterobacteriaceae*. Closing adipose tissue concentrations and stratified analyses were consistent with the overall analysis.

CONCLUSION: In obese women undergoing cesarean delivery, prophylaxis with 3 g of cefazolin did not significantly increase adipose tissue concentration. Thus, our data do not support recommendations for 3-g dosing.