

Exercise-Induced Anaphylaxis in Third Trimester Pregnancy

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Each month we present highlights from the Ask the Expert section of the American Academy of Allergy, Asthma & Immunology (AAAAI) Web site written by the Ask the Expert editors. For more questions and answers, visit www.aaaai.org/ask-the-expert.aspx.

Question:

I have a patient who is a primigravida in her third trimester of pregnancy (due February 6). She has a long-standing history of exercise-induced anaphylaxis (EIA) requiring almost quarterly injections of adrenaline. Fortunately, she has been asymptomatic during most of this pregnancy by not exercising! OB-GYN is asking about anaphylaxis risk during labor. Does anyone have any data on these patients to direct the obstetrician? I thought a scheduled C-Section to control variables was reasonable, but I cannot find information that would help me advise. Anybody have any suggestions?

Answer:

This is a complex situation, one that I have not encountered. I reached out to an expert in this area, Dr. Paul A. Greenberger.

Anaphylaxis (angioedema, urticaria, and bronchoconstriction) has been described during labor on 2 occasions in 1 gravida.¹ There are some case reports of women with EIA, who did not experience severe reactions during labor. For example, during labor in 7 pregnancies in women with EIA, 1 had urticaria with mild pruritus.² In 2 other cases, no reactions occurred, and the women had been pretreated with medications such as hydrocortisone 200 mg intravenously every 6 hours during labor and chlorpheniramine 10 mg intravenously with epidural

anesthesia.^{3,4} In a case of a woman who had not experienced an episode of EIA in 3 years, there were no symptoms during labor.⁵ At 38.5 weeks of gestation, labor was induced with oxytocin, and an epidural anesthesia was carried out. The gravida received hydrocortisone 100 mg intravenously and then 50 mg every 6 hours. Chlorpheniramine 4 mg was administered. The baby was delivered vaginally.

Of course, none of these cases are placebo-controlled. Nevertheless, I would advise similar pretreatment at the time of labor and every 6 hours until delivery. Epinephrine should be available.

REFERENCES

1. Smith HS, Hare MJ, Hoggarth CE, Assem ES. Delivery as a cause of exercise-induced anaphylactoid reaction: case report. *Br J Obstet Gynaecol* 1985;92: 1196-8.
2. Shadick NA, Liang MH, Partridge AJ, Bingham CO III, Wright E, Fossel AH, Sheffer AL. The natural history of exercise-induced anaphylaxis: survey results from a 10-year follow-up study. *J Allergy Clin Immunol* 1999;104:123-7.
3. Gupta R, Moore R. Exercise induced anaphylaxis and pregnancy. *Anaesthesia* 2007;62:420.
4. Rafi J, Khalil H, Mowbray D. Exercise induced anaphylaxis in pregnancy (EIA). E-poster E1.19. In: RCOG World Congress; 2013. Available from: <http://www.epostersonline.com/rcog2013/?q=node/30>. Accessed January 3, 2020.
5. Hindmarsh D, Mahadasu S, Meneni D, Rao S, Tennant M. Managing labour with a history of exercise induced anaphylaxis. *Eur J Obstet Gynecol Reprod Biol* 2016;198:167-8.

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