Anaphylactic Reaction To Chlorobutanol-Preserved Oxytocin

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Introduction: Synthetic oxytocin preparations containing the preservative chlorobutanol 0.5% are commonly used in obstetric anesthesia and are generally considered safe to administer. However, it is important to recognize the potential for anaphylaxis to chlorobutanol-preserved oxytocin, as symptoms may be severe and life-threatening to both mother and fetus if not promptly recognized and treated.

Case Presentation: A 35 year old G3P1011 presented in active labor at 39+2 weeks gestation. Her past medical history was significant for mild-persistent asthma controlled with an albuterol inhaler, she had no known allergies, and her previous delivery was uncomplicated. Her initial respiratory exam was unremarkable. An epidural catheter was placed for labor analgesia and continued until delivery. Upon delivery, an IV infusion of 1000ml 0.9% sodium chloride containing 20U oxytocin was initiated. Within a few minutes the patient began to experience severe shortness of breath; marked swelling of her tongue, throat, hands, and fingers; and a maculopapular rash on her upper arms and chest. Objective findings included SPO2 of 80-81% on 100% FiO2, diffuse expiratory wheezing, and elevated serum IgE. Oxytocin was discontinued immediately, and subsequent treatment consisted of 100% FiO2, nebulized albuterol, SQ epinephrine, IV diphenhydramine, IV famotidine, and IV hydrocortisone. Her symptoms improved significantly over the next few hours, and though concern for airway edema necessitated a period of ICU monitoring, she was appropriate for discharge on postpartum day #2. At the time of abstract submission the patient is scheduled to see an allergist for further testing.

Discussion: In this case, the timing of symptoms in relation to oxytocin administration and elevated IgE levels strongly suggested an anaphylactic reaction to the medication. It is important to perform allergy skin testing at least six weeks after the initial episode to confirm the diagnosis and effectively guide future care. Eight previous case reports were located on literature review, underscoring the rarity of this complication. Chlorobutanol was found to be the agent triggering anaphylaxis in the only two of these reports in which it was tested separately from oxytocin, and the remaining reports concluded oxytocin was the responsible agent. Given that chlorobutanol is a widely used preservative, future allergy testing should consider chlorobutanol separate from oxytocin.