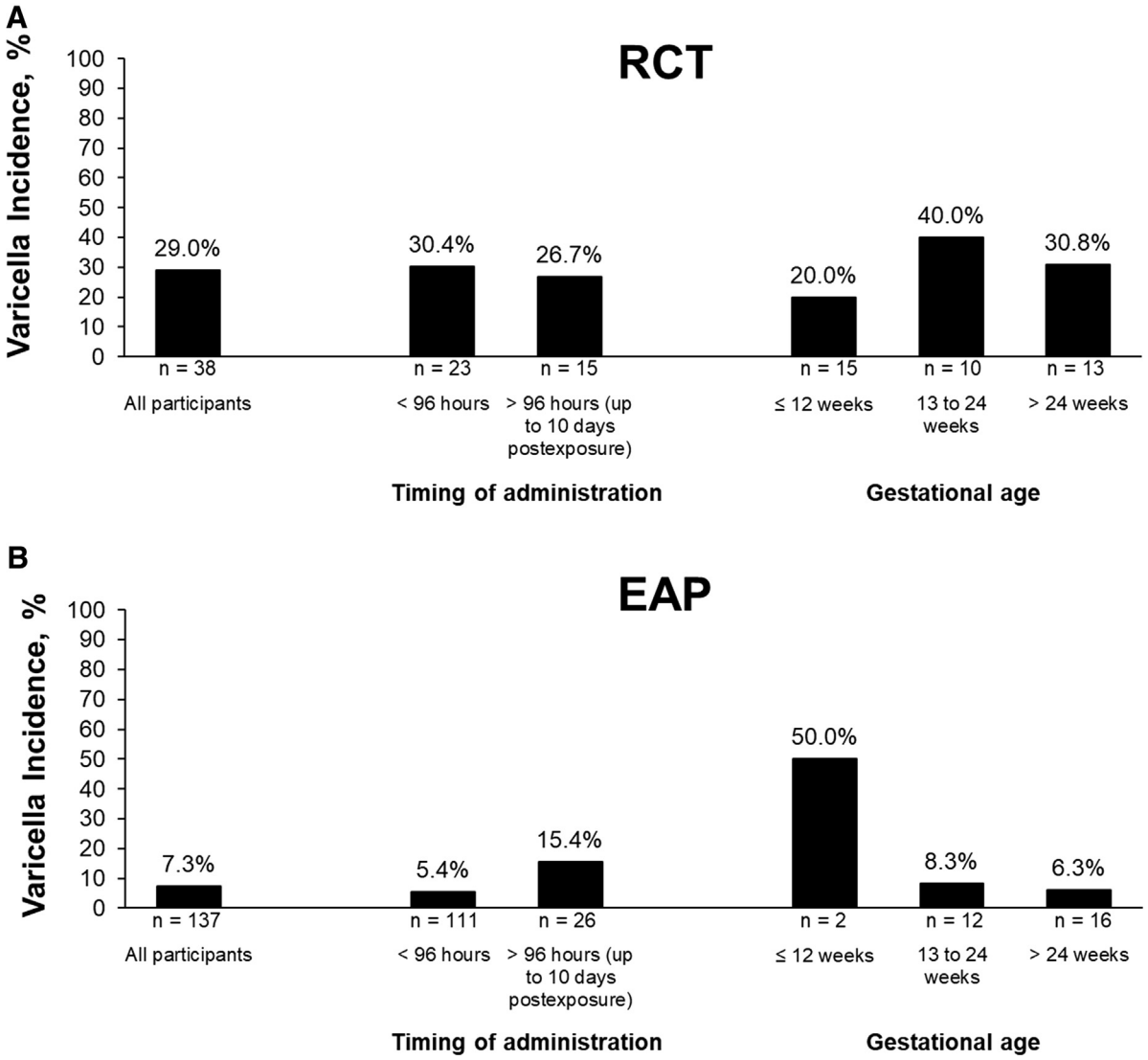
Safety and varicella outcomes after varicella zoster immune globulin administration in pregnancy

OBJECTIVE: Pregnant women generally experience more complications caused by respiratory viruses, which include pneumonia caused by the varicella-zoster virus (VZV).[1] Varicella zoster immune globulin (human; VARIZIG) is recommended for postexposure prophylaxis after exposure to either varicella zoster or herpes zoster to prevent or attenuate varicella zoster infection in high-risk individuals, which includes pregnant women.[2] Administration of VARIZIG is recommended as soon as possible after exposure (ideally within 96 hours). However, the Centers for Disease Control and Prevention guidelines suggest administration up to 10 days after exposure.[2] Given the limited clinical

FIGURE
Incidence of varicella



Incidence of varicella by the timing of the administration of VARIZIG and by gestational age at exposure in **A,** the randomized controlled trial and **B,** the expanded-access program. The overall incidence of varicella, incidence of varicella by timing of VARIZIG administration, and incidence of varicella by gestational age at exposure are shown for both studies.

EAP, expanded-access program; *RCT,* randomized controlled trial.

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information with VARIZIG in pregnancy, our objective was to describe the safety and varicella outcomes in pregnant women who were enrolled across 2 studies of VARIZIG.[3,4]

STUDY DESIGN: The first study, a randomized, controlled trial (RCT), compared intravenous vs intramuscular administered VARIZIG (625 IU).[3] The second study was an open-label, expanded-access program (EAP) in which participants received 625 IU of intramuscular VARIZIG in a real-world setting (NCT00338442).[4] Patient safety (adverse events) and varicella outcomes were analyzed with the use of descriptive statistics. Both studies followed institutional review board guidelines, and all patients provided written informed consent.

RESULTS: The RCT included 60 VZV-seronegative pregnant women, of whom 38 received VARIZIG intramuscularly (n=17) or intravenously (n=21). Of 166 pregnant women in the EAP, full safety data were available for 147 participants, and 137 participants had varicella outcome data. At least one-half of VZV exposures occurred in a household setting (RCT, 68%; EAP, 47%). In the EAP, the following VZV exposures occurred: 58% varicella zoster, 14% herpes zoster, 19% unspecified, and 8% unknown; VZV type was not specified in the RCT. Most participants (RCT, 61%; EAP, 81%) received VARIZIG within 96 hours of VZV exposure. Varicella incidence was 29% in the RCT and 7.3% in the EAP (Figure). Incidence of varicella was not impacted by duration of time between VARIZIG administration and VZV exposure nor the trimester of pregnancy. No cases of varicella-related pneumonia occurred in either study.

Common related adverse events were injection site pain (RCT, 19%; EAP, 3%) and headache (RCT, 7%; EAP, 1%). No maternal deaths occurred in either study. Serious adverse events occurred in 2 participants (5%) in the RCT (worsening of asthma and spontaneous abortion) and 5 participants (3%) in the EAP (spontaneous abortion, premature separation of the placenta, congenital anomaly, and fetal growth restriction); none of these serious adverse events were considered related to VARIZIG or varicella.

CONCLUSION: In the 2 available studies of pregnant women who received postexposure prophylaxis with VARIZIG,[3,4] the incidence of varicella was low, especially compared with findings from a 20-year retrospective study of postexposure prophylaxis with varicella zoster immune globulin (VZIG, discontinued in 2006) that reported varicella incidence of 42% vs 72% among those who did not receive postexposure prophylaxis.[5] In each study, there was a similar varicella incidence, regardless of the timing of the administration after VZV exposure. No cases of varicella-related pneumonia occurred in either study. Both studies had a similar safety profile, and VARIZIG was well-tolerated. Based on Centers for Disease Control and Prevention recommendations for the administration of VARIZIG to this high-risk population,[2] clinicians should use VARIZIG when their pregnant patients are exposed to VZV. ■

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QI Bootcamp: feasibility and acceptability of a novel approach to training residents in process improvement

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OBJECTIVE: The Accreditation Council for Graduate Medical Education (ACGME) requires that residents receive training and experience in quality improvement (QI), specifically that "Residents must have the opportunity to participate in interprofessional quality improvement activities," yet many obstetrics/gynecology training programs