Letters to the Editors

Automated alerts in obstetrics

We thank Drs. Klumpner, Kountanis, and Tremper for their interest in and response to our article. Their recent report highlights several issues that merit continued attention by investigators seeking to improve patient outcomes using predictive analytics. First, their report is one of the few that provide temporal data on the performance characteristics of alerts. Such temporal data are not just needed to compare systems—they are an essential ingredient in the development of clinician workflows needed to respond to an alert. Second—and this is a deficiency shared by our model—the positive predictive value (PPV) of their alerts (5.1%), while clearly superior to that of a manually assigned score (3.3%), is still fairly low compared with what is now possible in nonlaboring adults, which is in the range of 10 to 20%. Finally, their report highlights an important challenge in obstetrics—small numbers. Although they tested their model in a population with a much higher baseline risk than ours (postpartum hemorrhage prevalence of 1.5% compared with 0.3% in our population), they only had 120 cases. Given that, in developed nations, most laboring women are healthy, low numbers will remain a continuing challenge.

Although we employed different methods, our reports are in fundamental agreement: improvements in the early detection of impending or ongoing obstetrical complications using only manually calculated scores are unlikely. Given the low numbers (ie, weak signals), it is unlikely that simple combinations of vital signs can achieve what constitutes a “triple aim” in predictive analytics: high sensitivity, high PPV, and plenty of lead time. Only models or systems that achieve these 3 aims can be used to answer a much more important question: does early detection lead to improved patient outcomes?

In vitro fertilization and placenta accreta spectrum in pregnancies with a history of cesarean delivery

TO THE EDITORS: The cesarean delivery (CD) rate in China has risen sharply during the past decade, from 28.8% in 2008 to 36.7% in 2018. As China relaxed its 1 child policy, the proportion of pregnant women with a previous CD has almost doubled, increasing from 9.8% in 2012 to 17.7% in 2016. The in vitro fertilization (IVF) pregnancies confer an increased risk of adverse obstetrical outcomes. The uterine scar secondary to CD is the main cause of the placenta accreta spectrum (PAS). To accurately evaluate the risk of PAS in IVF and non-IVF pregnant women with a previous CD is critical in allowing for proper counseling, preparation, and optimizing outcomes. We read with great interest the study entitled “In vitro fertilization as an independent risk factor for placenta accreta spectrum” by Salmanian et al. We agree with the association between IVF and the development of PAS in the absence of placenta previa (PP) and a previous CD. However, based on our multicenter, cross-sectional cohort from 14,734 pregnancies with a previous CD, we found that IVF was not an independent risk factor for PAS in pregnancies with a previous CD. After excluding incomplete data, twin or multiple pregnancies, major fetal abnormalities, and antepartum fetal death, 9634 singleton pregnancies were enrolled, of which 192 (1.99%) were IVF pregnancies and 520 (5.40%) were PAS. The frequency of IVF in the PAS group (1.73%) was similar to that in the non-PAS group (2.01%). Besides, the incidence of PAS was slightly lower in the IVF group (4.69%) than the non-IVF group (5.41%).

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