after laparotomy by directly observing the lesion,[4] preparation for the worst before surgery markedly aids obstetricians.

The worst-case scenario is for obstetricians to encounter percreta unexpectedly after opening the abdomen without an adequate multidisciplinary team or devices. MRI can avoid this scenario in some patients. The same may hold true for any other surgeries, especially difficult surgeries: if the 2 diagnostic modalities provide different disease severity, preparation for the worst may be better.

If a diagnostic procedure has a risk of being harmful to patients, the present discussion may be different. MRI, although requiring some cost, causes no harm to the patient. Practically, we should prepare based on the severer data irrespective whether it is ultrasound or MRI (Figure).

Taken together, until evidence is clearly demonstrated, we recommend MRI to avoid/ameliorate the worst-case scenario. Putting this aside, every effort should be made to improve the diagnostic accuracy of MRI. ■

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REPLY

Check for updates

We appreciate the work of Dr Matsubara and the interest in our research on placenta accreta spectrum disorders (PAS). Thank you for the opportunity to clarify our data and address 2 important points.

First, the percreta detection rate is not the only consideration when ordering magnetic resonance imaging (MRI). That 7 patients (9%) were correctly upgraded to percreta is only part of the story. In our cohort, MRI incorrectly upgraded 10 cases (13%) to percreta (severe PAS). These patients, if managed differently from PAS, could suffer unnecessary harm from additional procedures or iatrogenic preterm delivery. MRI in these cases, then, could be harmful. Furthermore, in 6 cases (8%), MRI incorrectly confirmed a diagnosis of nonsevere PAS when percreta (severe PAS) was actually present. Here again, MRI was misleading and could result in harm when obstetric and surgical teams are less prepared for the worst-case scenario.

Given the modest predictive ability and unacceptably high false-negative rate of all imaging modalities for percreta (true for both MRI and ultrasound), we propose that all cases of suspected PAS, not just cases of suspected percreta, be managed as though they may be percreta in centers with experience in managing PAS.

Second, even if maximizing the detection rate of percreta were the only consideration when ordering an MRI for PAS, available data do not support the conclusion that MRI is more sensitive than ultrasound. Two recent meta-analyses of ultrasound and MRI for the detection of percreta concluded that ultrasound and MRI are equivalent.[1,2] Moreover, we are not stating that MRI is useless for PAS. Rather, we question whether MRI is useful once a quality ultrasound has been performed. This is relevant in many cases when there is insufficient expertise or resources to perform MRI.

We wholeheartedly agree with Dr Matsubara that the accurate antenatal diagnosis of PAS is highly desirable. Indeed, we look forward to further research toward this goal. We recognize that our data are not definitive and can be interpreted differently within the context of various settings and management strategies. But we stress that the potential added benefit of MRI should be weighed against the risks of overdiagnosis, underdiagnoses, and a misleading change in diagnosis when it is used as an adjunct to ultrasound. ■

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Did the maternal pulse mask the fetal heart rate of acidemic infants with no explanatory features?

Check for updates

TO THE EDITORS: I read the study by Clark et al[1] that evaluated an algorithm to manage category II fetal tracings with great interest and admiration. Regarding the 18% of infants with acidemia with no explanatory features on review of the fetal heart rate tracing, is it possible that the maternal pulse was mistaken for the fetal heart rate (also known as signal ambiguity)?[2,3] Certain fetal monitors are reported to be more susceptible to subtle transitions from the fetal heart rate to the maternal pulse and, as has been described, monitoring the maternal pulse may look similar to a category I fetal heart rate tracing, especially in the active second stage.[2-4] It may, thereby, also be of interest to know which fetal monitors were used in the study. ■

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REPLY

Check for updates

We thank Dr Keily for his interest in our article. The heart rate tracings in question were not maternal, for the following reasons: (1) We are aware of that phenomenon and the characteristic signs such as broad "accelerations" coinciding with contractions. This was not observed in this series where we reviewed every case of failed identification by the algorithm. (2) Newer fetal heart rate sensors will search automatically for maternal fetal coincidence (same heart rates) and warn clinicians of its existence. (3) The same warning appears with concurrent SPO2 monitoring, which was common practice in these hospitals. (4) Most importantly, this error typically occurs when only a short segment of heart rate tracing is considered and when the maternal heart rate is not taken into account. Such an error would, in our series, have required several hours of unrecognized severe maternal tachycardia.

Thus, erroneous recording of maternal rather than fetal heart rate was not a likely factor in our findings. Rather, our study documents the limitations of both electronic fetal heart rate monitoring and the use of base excess as an arbiter of fetal tolerance of labor. ■

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