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



TO THE EDITORS: I read the study by Clark et al¹ 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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The author reports no conflict of interest.

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REPLY



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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