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## EDITORIAL

# Management of clinical chorioamnionitis at term

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Clinically diagnosed chorioamnionitis occurs in up to 10% of pregnancies and is associated with several complications, including neonatal sepsis.<sup>1,2</sup> Most cases are caused by anaerobes and genital mycoplasmas, with less than 25% caused by *Escherichia coli* and group B streptococci.<sup>3</sup> Management of chorioamnionitis consists of administration of broad-spectrum antibiotics plus delivery of the pregnancy.<sup>4-6</sup> Based upon older descriptive data, the interval from diagnosis of chorioamnionitis to delivery has not been associated with increased maternal or fetal complications,<sup>7-9</sup> and cesarean delivery has been recommended for supervening obstetric indications only.<sup>8,10</sup> However, with chorioamnionitis, the cesarean delivery rate is increased approximately 3-fold, with the leading indication being labor abnormalities. It is acknowledged that the studies reporting no association between duration of chorioamnionitis and major complications have been limited. They have contained relatively small numbers of cases, have been limited to mainly term patients, and have contained few patients with duration of chorioamnionitis greater than 8 to 12 hours. Accordingly, the work by Rouse et al from the Maternal Fetal Medicine Network is most welcome.<sup>11</sup> This is a very large, multi-institutional, observational study with important findings. Although chorioamnionitis in patients with cesarean delivery was associated with increased complications, the duration of chorioamnionitis was not related to most maternal or fetal-neonatal outcome measures. In the logistic analysis, there were only 3 outcomes that were significantly re-

lated to the duration of chorioamnionitis. These were uterine atony, 5-minute Apgar scores  $\leq 3$ , and mechanical ventilation within 24 hours. It is reassuring that the absolute risk did not increase largely with increasing duration of chorioamnionitis. For example, the rate of mechanical ventilation within 24 hours increased from 2.5% with durations of  $< 3$  hours to only 5.7% with durations  $> 12$  hours. The 5-minute Apgar scores  $< 3$  increased from 0.4% with intervals  $< 3$  hours, to only 2.7% with intervals between 9 and 12 hours. Two features of Rouse's publication are notable. First, only a small percentage of patients had long durations of chorioamnionitis; only 89 (4.5%) had durations  $> 12$  hours. Second, the data are limited to patients having cesarean delivery, but there is little reason to expect a different conclusion among women having chorioamnionitis and vaginal delivery.

Clinical chorioamnionitis is associated with long-term adverse neonatal outcomes, especially cerebral palsy.<sup>12,13</sup> This observation might lead some clinicians to deliver the infant immediately after the diagnosis of chorioamnionitis in an effort to minimize these long-term risks. Such intervention would be, in my opinion, unwise. First, it would increase the cesarean delivery rate, exposing the woman to increased morbidity. Second, with current management, there are no data to suggest that immediate delivery upon diagnosis prevents either short- or long-term neonatal complications.

Chorioamnionitis is better prevented than treated, and several interventions have been shown to decrease its incidence. These include prompt diagnosis and treatment of labor abnormalities,<sup>14</sup> prompt induction with PROM at term,<sup>15</sup> and use of broad-spectrum antibiotics in patients with preterm PROM.<sup>16</sup>

Thus, for a term patient with clinical chorioamnionitis, broad-spectrum antibiotics should be administered

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promptly to decrease neonatal sepsis and maternal complications. The timing and route of delivery should be determined by standard obstetric indications, although the risk of cesarean delivery is increased largely because of labor problems that, in fact, may have predisposed to the chorioamnionitis in the first place. At term, cesarean delivery should not be performed simply because of the diagnosis of chorioamnionitis. Yet, with usual obstetric practice, 90% of patients will be delivered within 8 to 12 hours.

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