
CASE STUDY: THE UNEXPECTEDLY VIABLE FETUS

By Andrew I. Kaplan, Esq..
Apr 1, 2005

THE FACTS:

The patient, a 35-year-old gravida 2, para 0, presented to her obstetrician for antepartum care in February 1990 with a last menstrual period of 11/27/89 and an estimated date of confinement of 9/6/90. She was 12 weeks by dates and by ultrasound, and her physical examination was within normal limits. When the woman returned at 16 weeks' gestation, her examination and serum alpha-fetoprotein results were normal. Ultrasound was again within normal limits at 18.5 weeks, when the patient had her last documented prenatal visit.

On May 7, 1990, at approximately 22.5 weeks' gestation, the patient presented to the emergency room with complaints of intermittent back pain since the morning and constant groin pain for 3 months. She was dizzy and had noticed an increased watery, odorless discharge for 4 days. No amniotic fluid was seen within the vagina. At 7 PM, the patient was placed on an external fetal monitor, which displayed a fetal heart rate in the range of 130 to 150 bpm, with no maternal contractions. Vaginal examination showed "hourglassing" membranes, greenish mucus, and cervical dilation of approximately 2 cm. The impression was premature cervical dilatation with bulging membranes at 22 weeks, and the plan was to admit the patient, perform labs, obtain a group B beta-streptococcus (GBS) rectovaginal culture, and start the patient on IV ampicillin with strict bed rest in the Trendelenberg position.

On May 9, 1990, the patient complained of very mild contractions, and her cervix was 1 to 2 cm dilated with 50% effacement. Terbutaline was started with doses of 0.25 sq at 2 AM, repeated every 30 minutes for three doses and then switched to oral terbutaline 2.5 mg every 3 hours until 4 PM on May 11. The obstetricians discussed cerclage but discounted it because of the extent to which the fetal membranes

were "hourglassing." The next day, the rectovaginal culture report revealed no GBS. Because the patient was "shaking" from the terbutaline and had no contractions, the medication was decreased to every 4 hours. She was to remain on bed rest for the duration of her pregnancy.

On May 14 at 23.5 weeks' gestation, the terbutaline was discontinued. On May 16, the patient complained of abdominal cramping that occurred "on and off" for 5 to 10 minutes, so her obstetrician telephoned in an order to increase the terbutaline 2.5 mg to every 3 hours. The next morning, the woman's cramps were continuing but not getting stronger or more regular, so the terbutaline was decreased to every 4 hours. On May 21, the terbutaline was discontinued due to lack of contractions and the patient's reaction to the medication. She had a greenish vaginal discharge of unknown etiology but no evidence of bleeding.

A nurse's note made at 8:30 PM on May 22 at 24.5 weeks' gestation describes the patient as having "contractions continuously for 7 minutes," at which time the woman's obstetrician ordered that terbutaline be given "stat." The woman's contractions stopped, but by noon the following day, she was once again complaining of two mild contractions, which then subsided. The patient's membranes ruptured at 5:30 PM on May 23 and she was taken to the delivery room within 10 minutes and placed on an external fetal monitor. The FHR was consistently within the 120 to 150 bpm range, and the woman was leaking clear amniotic fluid. At 7:45 PM, the FHR was in the 145 to 160 bpm range, with moderate beat-to-beat variability and no uterine contractions. A nurse's note indicates the FHR decreased to 70 bpm but returned to baseline after the elevated head of the patient's bed was lowered. The FHR remained consistently within the 150 to 160 bpm baseline through 10:15 PM, and uterine contractions were occasional and mild throughout that period.

At 10:15 PM, the external monitor revealed contractions every 3 to 6 minutes and the FHR tracing revealed variable decelerations. The patient was afebrile, but her white blood cell (WBC) count was 14,500. The attending physician planned to augment labor with oxytocin if the patient became febrile or the WBC rose. At 11 PM, the patient complained of irregular mild contractions and the FHR became tachycardic to 180 bpm. The case was discussed by the maternal-fetal medicine consultant, a resident, and the obstetrical attending, and oxytocin augmentation was begun to facilitate delivery before the onset of chorioamnionitis. At 11:15 PM, the FHR baseline was between 180 and 190 bpm, IV oxytocin was started, and the external monitor was discontinued.

At 11:30 PM, IV ampicillin/gentamicin was given; at 11:45 PM, 4 mU/min of oxytocin was given. At midnight on May 24, 5 mU/min of oxytocin was given, 6 mU/min was given at 12:15 AM, and 7 mU/min was given at 12:30 AM. Oxytocin was increased by 1 mU/min increments every 15 minutes through 1:45 AM, and at 2:35 AM, a live infant girl was delivered at 1 lb, 12 oz with Apgars of 1/3. The infant had a heart rate of 40 bpm at 1 minute and spontaneous respiration and a heart rate greater than 160 bpm at 5 minutes. She was intubated in the delivery room and given 100% oxygen on the way to the neonatal

intensive care unit. Microscopic diagnosis of placental pathology revealed mid-trimester placenta with acute chorioamnionitis.

Arterial blood gases performed on the infant at 3:30 AM came back normal (7.38/34/276/22 on 100% oxygen) and the 10-minute Apgar score was 8. Twenty-four hours after delivery, a grade IV intraventricular hemorrhage was diagnosed. The infant's urine culture after delivery was positive for GBS, but her blood culture and her mother's were negative.

The infant developed with a normal- to low-range intelligence scale and a mild-to-moderate right hemiparesis.

THE ALLEGATIONS:

Plaintiff alleged that the private obstetrician who rendered prenatal care failed to perform cerclage or urinalysis, or to recommend bed rest, and that the hospital failed to appropriately continue antibiotics or determine the identity or cause of the greenish discharge, mismanaged the administration of tocolysis, and negligently discontinued the external fetal monitoring during the course of labor, despite evidence of fetal tachycardia. Plaintiffs further contended that as a result, the infant suffered a hypoxic event during birth, which resulted in intraventricular hemorrhage, brain damage, and severe motor disabilities.

Specifically, the plaintiff alleged that once the terbutaline was started, it should have been administered uninterrupted through delivery, and that the decision to start oxytocin at approximately 11:15 PM on May 23 was inappropriate.

DISCOVERY:

The case was in litigation for well over a decade. Before the scheduled trial date, the hospital's insurance coverage layer for the dates in question was entirely exhausted.

During the patient's deposition, her hostility was primarily directed toward the obstetrician who provided her prenatal care. She claimed that early in the pregnancy, she complained to him of increasing discomfort in her lower abdomen, which lasted for an hour or two every day and occurred every 3 to 4 hours during the day. The woman claimed that at her third visit, the obstetrician informed her that she had a bladder infection, but did not obtain a urine culture or prescribe medication. She testified that in late April, she noticed a clear vaginal discharge, but the obstetrician did not feel the need to call her in for a visit, and a few days later, when the discharge had turned greenish, he "did not know" the source. According to the patient, the day she was admitted to the hospital, she called her obstetrician to complain of "gripping pain" and continuous greenish vaginal discharge. When the obstetrician suggested she simply come to his office in 2 days for her regularly scheduled visit, she instead went to the hospital.

The patient also testified that various obstetrical residents at the hospital told her that she was being placed with her "legs raised" on bed rest to see if the baby would "go back into the uterus" so that a cerclage could be performed. In addition, she testified that various obstetricians told her an incompetent cervix was the cause of the "hourglassing" of the membranes. She said no one ever explained to her the cause of her greenish vaginal discharge. Recalling removal of the external monitor before delivery, the patient testified that the obstetrical resident said her baby was too young, very small, and not expected to live, and thus, monitoring the infant's heart beat was unnecessary. She denied that the infant cried or underwent any type of resuscitation before being removed from the delivery room.

Our experts felt that there was no indication for prophylactic cervical cerclage, since the woman had no history of an incompetent cervix nor was there reason to suspect her cervix was dilating. Our pediatric infectious disease expert felt that starting the mother on ampicillin at admission was consistent with the standard of care, in that infection is the most common cause of preterm labor. He was critical of the failure to take smears of the woman's discharge on May 7 and the greenish discharge noted by the nursing staff on May 10. He postulated that the mother was likely colonized with or had small amounts of GBS in her vaginal canal, which would not have led to infection in the infant unless the mother's membranes ruptured. He believed that the baby was exposed to the GBS during birth, but that the positive urine culture was irrelevant since intraventricular hemorrhage is not a complication of infection.

Regarding the tocolysis, our experts felt that reducing the dose and discontinuing the drug was justifiable in the face of the woman's adverse reaction to it. The decision to start oxytocin on May 23 was supported by the rupture of membranes and the elevated WBC count, which the physicians felt portended a potential infectious process, thus increasing their desire to expedite delivery. In 1990, cesarean delivery would not have been considered for a fetus less than 26 weeks' gestation.

The most serious issue was the discontinuance of fetal monitoring when the infant's FHR reflected tachycardia. The physicians in labor and delivery disagreed about who ordered the monitoring to be stopped and why. At deposition, the delivering obstetricians took the position that it was customary not to monitor the FHR of infants less than 24 weeks' gestation, since the results would not change management, but that external monitoring was done in this case before delivery to monitor uterine contractions. Finally, the experts felt that the arterial blood gases and the presence of a unilateral injury rather than diffuse intracranial bleeding argued against end-stage hypoxia as the cause of the infant's injuries.

RESOLUTION:

The case ultimately was settled for \$1.5 million before trial. The hospital paid \$750,000, the attending maternal-fetal medicine specialist paid \$250,000, and the obstetrician who provided prenatal care paid \$500,000.

ANALYSIS:

There are a variety of reasons why this case settled, not the least of which was the exposure occasioned by the injuries and exhaustion of the hospital's insurance coverage for the dates in question. Malpractice insurance is not a subject discussed before a jury in court, but behind the scenes the extent of available coverage and the desire to protect personal assets often is an issue.

The obstetrician chose to settle because the documentation was poor, particularly when it came to no response to or recommendations about the patient's antepartum physical complaints and the lack of urinalysis. The maternal-fetal medicine specialist was a very poor witness at deposition, who surprisingly testified that there was "no way to tell" whether the patient suffered from an incompetent cervix or premature labor. He couldn't explain why he never cultured the greenish discharge and added that he put the patient on bed rest in the hopes of continuing the pregnancy until the fetus was viable, which he felt would be at 37 weeks.

Finally, the hospital settled globally because a credible argument could be made that medical management during end-stage labor was improper because of the erroneous presumption that the fetus would not survive. Lack of monitoring in the presence of tachycardia afforded plaintiffs the opportunity to argue that an untoward event occurred—of which the physicians were unaware—through their own handiwork. And the defendants were unwilling to take the chance that a jury might mitigate that claim by accepting—or even considering—the blood gases or absence of diffuse injury.