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Obstetrics Sample Case

Fetal distress with negligent delay in cesarean section delivery, causing increase of risk of premature newborn intra-cerebral hemorrhage.

There is no question that this child sustained severe brain damage. I reviewed all the documents and will give you my opinions below.

The office records reveal that she was a patient who in the past had received birth control pills. She delivered a healthy girl weighing 5 pounds 4-1/2 ounces four years earlier. She had routine office care and a normal delivery.

The next relevant records were from her delivery two years earlier when she delivered a healthy 5 pound 9-3/4 ounce girl. The diabetic screening was negative and the office care, hospital care and follow up was normal. The records reveal that she was a smoker both during this pregnancy and the previous one, as well as the one in question. Smoking does increase the risk of intrauterine growth retardation, which, in fact, was one of the problems with the previous pregnancy.

According to the office records, two years later, the patient had the injectable medication, Depo-Provera, on February 9, after the serum pregnancy test performed the day before was negative. The laboratory did positive and negative controls, according to the documents supplied.

Then, she had symptoms consistent with pregnancy and on March 14th had a positive urine pregnancy test. This was confirmed by a positive serum pregnancy test on that same date. Although it would be negligent to use Depo-Provera in a patient who was pregnant, having a negative serum pregnancy test would allow the physician to, in fact, assume the patient was not pregnant, and give her that birth control medication by injection form. In any event, in my opinion, that would not cause the type of brain damage that was found in this case.

The patient also had a history of chronic pelvic pain, but that is not relevant to the subsequent events. That might be a cause for infertility, which is not what this case is about.

That year, the record shows she was smoking one-half a pack of cigarettes per day. There were no other risk factors, and she had a benign pregnancy until August 22, when she was 31 weeks pregnant by dates. The records show that she fell down the steps the previous night, but there was no bleeding. The physician correctly ordered a nonstress test on a weekly basis.

On August 22, she underwent the first nonstress test. Her blood pressure was normal at 118/70. My review of the records is consistent with their interpretation showing good variability. Every few seconds the fetal heart rate would change. This is what is seen in a healthy fetus and is consistent with a healthy brain and no stress to the fetus. The nonstress test does not use any stimulation with the hormone drug, Pitocin, to cause uterine contractions. The nonstress test was ordered to be done weekly because the weight of the fetus was small for gestational age (SGA). In my opinion, this does meet the standard of care.

On August 30th there were some red flags. Her blood pressure had risen significantly to 130/90. This was not repeated in the obstetrical outpatient record at Hospital #1, and in my opinion, that would a departure from the accepted standards of care. The record also shows that the mother was upset and "states baby has not moved times two days."

Furthermore, the beat-to-beat variability was poor. I agree. It shows a very blunted, rather straight-line record at about 160-150 beats per minute. All this, in my opinion, is ominous. Even if her blood pressure would have returned to normal, the fact that this fetus had not moved for two days, and that the beat-to-beat variability was extremely poor, and the fact that Dr. #1 was notified, in my opinion would require immediate hospitalization and further intervention.

The nurses' notes show that the patient felt the baby kick twice and that there was some more fetal movement during this recording. However, the significant abnormality with regard to beat-to-beat variability, in my opinion, required some immediate investigations, which would include hospitalization.

In my opinion, they should have had the ultrasound biophysical profile study performed. However, Dr. #1 ordered that the nonstress test (NST) be repeated the next day on August 31st, and on that day, they should do a BPP (biophysical profile study).

When she returned on August 31st for that additional evaluation, the record says, "States still has felt no movement." Her blood pressure taken twice this visit was normal at 110/70 and 110/60. The X-ray Department called them and told them that there was no ultrasound available that day because the technician was ill. Certainly there must be one additional person capable of performing the study. This was a very serious problem because on August 31st, there was still no beat-to-beat variability. This puts great stress on the fetus and increases the risk of multiple complications, including that of intracerebral hemorrhage. The patient was admitted to the hospital that day.

Dr. #1 noted in the history, "The last nonstress test a week ago showed reactive patterns, but on nonstress test on August 30th, it showed straight line without much variability, no acceleration, with infrequent fetal movement. The plan was to repeat nonstress test the next day. The nonstress test on 8/31 showed the same findings, nonreactive. OCT (oxytocin: Pitocin) followed, which showed positive means, continuous late deceleration with uterine contraction. Biophysical came 2 of 8 from the amniotic fluid pocket, but generally the amniotic fluid itself was minimal. The fetal breathing or fetal tone were all negative. With all this fetal distress, emergency section was elected, after using steroids for the fetal lung maturity, the positive or negative side of this steroid use was fully discussed with the patient."

The above is not quite accurate. The biophysical profile was performed on September 1st, not August 31st, and it was on September 1st that the patient was taken to the operating room for the Cesarean section operation. And steroid use is controversial and not usually effective.

The placenta did not reveal any rupture, and had some changes consistent with some premature aging with fibrosis (scarring) and placental infarction (gangrene). In my opinion, the placenta was not that healthy, and it caused the intrauterine growth retardation. This fetus was in a very unhealthy environment, confirmed by the very abnormal nonstress test on August 30th. It was not until two days later that the Cesarean section operation took place.

With regard to the test performed on August 31st, Pitocin was begun at 11 a.m. Decelerations were noted. This is ominous. With uterine contractions, the fetal heart rate should not fall significantly. This is consistent with a stressed fetus. The nurses' notes clearly show, as does my interpretation of the fetal heart monitor, that there was consistently very poor variability.

Despite this, throughout the night being unchanged, including minimal variability and decelerations, it is only until 8:06 in the morning that the ultrasound biophysical profile

was completed and the decision for a Cesarean section was made. The patient was taken to the operating room at 11:30 a.m.

Following Cesarean section, the mother initially did well. Unfortunately, she was rehospitalized from September 19-26 because of deep venous thrombosis involving her left leg. This was properly treated with anticoagulation (blood thinning medication), and the next year, the study for blood flow and venous thrombosis was negative. In my opinion, the negligent delay in performing the Cesarean section for the baby did not affect the risk for the mother developing the deep venous thrombosis.

The approximate gestational age by dates of the newborn delivered by Cesarean section was 32 weeks. The breathing was abnormal in that there was grunting and retractions (sucking in of the flesh secondary to difficulty in breathing in the air), and that, plus the x-ray findings consistent with granular-type changes in the lung, made the appropriate diagnosis of respiratory distress syndrome (RDS).

The baby's initial blood sugar when the transport team was called was approximately 90 mg percent; this is normal. However, in a stressed obstetrical delivery, the blood sugar can drop dramatically, and can cause diffuse brain damage. When he arrived at Hospital #2, the blood sugar (glucose) was 29, and they immediately gave the baby intravenous bolus (a large, quick dose) of sugar (D10W). This is proper care, and in my opinion, the blood sugar did not drop to that dangerous a low level (generally under 20) to cause diffuse brain damage, and this child did not have diffuse brain damage. Furthermore, the oxygen values reported are numerous arterial and capillary blood gases, and in my opinion, always were within the safe range. This child did not suffer brain damage, in my opinion, from low oxygen levels after birth.

During the Cesarean section operation, there was a very small amount of amniotic fluid, but there was no meconium staining. Often with fetal distress, the fetus will have a seizure in utero and have a bowel movement in the amniotic fluid, which turns it green (meconium). That was not found here.

The umbilical cord was not described as having any knots, neither by the obstetrician or the pathologist. In fact, the umbilical cord is described as normal with no knots or strictures within. In my opinion, the umbilical cord was not the cause of any problem to this fetus, but the placenta, as I described, was insufficient in its health, in my opinion, to fully sustain the pregnancy.

The newborn premature baby was described neurologically as "normal," and the Apgar score at one minute was 5, and at five minutes was 7. These are reasonably good values. The Apgar scores are for 40-week (full-term) babies and premature babies usually have a

significantly reduced Apgar score. It was the examination by Dr. #2, at Hospital #2, that described the neurological exam as intact for age and the estimated gestational age at 32 weeks.

In my opinion, the care at Hospital #2 was good. This newborn baby did have abnormalities with its clotting studies, with an elevated prothrombin time and activated partial thromboplastin time (PT and APTT). Also, the platelet count and fibrinogen was depressed, and because of that, he did receive proper blood transfusions with the use of platelets, cryo-precipitate (blood clotting components) and plasma.

In my opinion, the newborn had sustained fetal distress of a moderate degree secondary to the impairment of the placenta as confirmed by the nonstress test and the oxytocin challenge stress test, significantly increased the risk for this newborn baby having a bleeding dysfunction.

Because of that bleeding problem, there was hemorrhage into the brain. This was confirmed by cerebral ultrasound studies.

On September 6th, there is a mention that there was an abnormal wrist position, etc., and they were going to ask the occupational therapist to evaluate the patient's tone of movement in the morning. That is the first note that I can find of any neurologic abnormality.

On September 6th, there was an ultrasound of the brain which says, "Five-day-old male who had tension pneumothorax (a collapsed lung that was timely recognized and treated with a chest tube) this morning and now has developed sluggish and asymmetric pupils and right upper extremity seizure-like activity." Therefore, it would appear that something happened on September 6, which was an acute neurologic change. This ultrasound of the brain revealed hemorrhages within the brain. There was blood clot and hemorrhage within the substance of the brain, including both frontal regions, and more extensive on the right, which would cause the seizures and neurlolgical changes. There were some cystic (fluid-filled) changes within those areas, and it says, "The findings are worrisome for extensive periventricular leukoencephalomalacia."

A repeat ultrasound of the brain on September 8th showed the previous hemorrhage with no additional changes. On September 11th, another ultrasound showed "continued evolution of bilateral periventricular leukomalacia with interval formation of several cysts."

On September 18th, another ultrasound compared to September 11th showed further progression. In the frontal lobes, there were areas of necrosis (gangrene) developing. There was further progression on the ultrasound on September 28th.

On November 27, the ultrasound showed "extensive bilateral periventricular leukomalacia, right greater than left and more marked in the frontal regions." This was at three months of age.

An MRI of the brain with no contrast on at 11 months of age confirmed all the findings of the previous ultrasound. All this was related to the hemorrhage within the brain.

In my opinion, the substantial brain damage of this child is related to the hemorrhage within the brain. In my opinion, there was negligence by Dr. #1 in not interceding on August 30th, and certainly by August 31st. He waited an additional two days from the first significant evidence of a severe problem to perform a Cesarean section operation.

If he was relying upon the ultrasound technician who was ill that day to perform the biophysical profile, and if the hospital was unable to supply an alternate technician, then in my opinion, the hospital would also be negligent.

This was a fetus that was in a very stressful situation. The mother also noted the absence of fetal movement, which is pathologic, and despite all of that, there were substantial delays in performing this Cesarean section operation. In my opinion, the fetus kept in that stressful environment for those extra two days was placed at greater risk for further complications developing, which would include the intracerebral hemorrhage, despite proper care at the Hospital #2.

At birth, on September 1st, it notes that the baby was given "Aquamephyton 1 mg." This is the correct medication to give a newborn to decrease the risk of hemorrhage. This is vitamin K, and it helps the liver produce the clotting substances. But in a stressed fetus, there are biophysical changes in the body that do increase the risk of intracerebral hemorrhage.