Team-Based Approach Key to Care In Peripartum Cardiomyopathy

BY KERRI WACHTER
Senior Writer

ASHEVILLE, N.C. — Focus on the woman's health in those rare cases of peripartum cardiomyopathy, said Thomas S. Ivester, M.D., at the Southern Obstetric and Gynecologic Seminar."Maternal health is of paramount importance in this situation," Dr. Ivester, of the department of maternal-fetal medicine said during the University of North Carolina at Chapel Hill.

Cardiomyopathy is an infrequent but potentially fatal complication of pregnancy. The mortality rate is 0.4 per 100,000 live births. Risk factors during pregnancy include multiparity, advanced age, African American race, and preeclampsia.

Care of critically ill pregnant women requires a team-based approach, with good communication among caregivers and specialists. Obstetricians can serve a vital role in educating critical care colleagues about treating pregnant patients who are critically ill.

Fetal decompensation may flag maternal decompensation. 'Once it's detected, cardiac monitoring of the fetus should stop until the mom' is stabilized.

In particular, "cardiac indices and central venous pressure are notoriously inaccurate in critically ill gravida. This is especially so with preeclampsia," said Dr. Ivester. Use echocardiography to assess volume or use a P.A. catheter to get a wedge pressure.

Fetal decompensation is frequently a warning sign of subsequent significant maternal decompensation. "Once it's detected, cardiac monitoring of the fetus should probably be ceased until the mom is completely stabilized. Intervention in that scenario is probably ill advised," said Dr. Ivester.

In patients who have significant hemorrhage or in those who may have suffered some type of hypovolemic insult or have been in shock, dopamine can be used to preserve and enhance renal and placental perfusion. "So a renal dose of dopamine, you can also consider as a placental dose of dopamine," Dr. Ivester said.

Whenever possible, delivery should be reserved for obstetric indications. Vaginal delivery is preferred, because it is tolerated better by the woman. These patients should have prophylaxis for deep vein thrombosis, which can be accomplished by mechanical or chemical means.

"Close follow-up of any case of peripartum cardiomyopathy is critical," Dr. Ivester said. He suggests serial echocardiography to evaluate the recovery of left ventricular function. Avoiding subsequent pregnancies until function improves is important, so make sure these patients are on adequate contraception. Earlier ICD implantation or placement on a transplant list should be considered for patients who suffer significant rhythm deterioration or have persistently low ejection fractions.

"Most importantly, … obstetric issues do not disappear with delivery. [The mother] is still an obstetric patient, even when the baby is delivered," Dr. Ivester said. Peripartum changes can persist in some women for many weeks after delivery, and the obstetrician still has an important role to play in their care, especially in helping to differentiate the changes associated with pregnancy from other conditions.

In a normal pregnancy, blood volume increases 50%-100%. Systemic vascular resistance decreases 20%, and the blood is hypercoagulable. Cardiac output can fluctuate. Respiratory alkalosis may occur. The heart is displaced upward and to the left. The patient will have slight left ventricular hypertrophy and effusion that can be seen on echocardiography. There is frequently a left axis deviation due to these changes. There also may be nonspecific ST segment and T-wave changes.

Profound cardiac changes also occur during labor. Systemic vascular resistance can go up 10%-25% with each contraction. "That's a substantial increase for a patient with a very sick myocardium or those with significant valvular diseases," Dr. Ivester said. Women in labor will autoinfuse 300-500 cc every time they contract, especially if they are near term. Cardiac output fluctuates as labor progresses. In early labor (<3 cm), cardiac output goes up about 17%. In the second stage of labor (> 8 cm), cardiac output increases at least 34%. ■

After Laparoscopic Myomectomy, Vaginal Delivery Can Be Safe

Vaginal delivery after laparoscopic myomectomy can be accomplished safely without uterine rupture by using management protocols that are similar to those used for vaginal birth after cesarean section, reported Jun Kumakiri, M.D., and his associates at Juntendo University, Tokyo.

In a study of 108 women who wanted to become pregnant after undergoing laparoscopic myomectomy (LM) and were followed for at least 6 months, 40 spontaneous pregnancies and 7 pregnancies by assisted-reproductive technology occurred in 40 women over a 4-year period.

Using Cox regression analysis, the investigators found that pregnancy after LM was positively associated with the diameter of the largest myoma (odds ratio [OR] 1.06) and negatively associated with the patient's age (OR 0.88) and with the number of enucleated myomas (OR 1.17).

A total of 32 deliveries occurred after LM. Of these, vaginal birth was attempted in 23, resulting in 19 (83%) successful vaginal births, with all but one occurring after 37 weeks' gestation. Attempted vaginal birth after LM was unsuccessful in four patients (J. Minim. Invasive Gynecol. 2005;12:241-6).

Vaginal birth after LM was performed according to recommendations from the American College of Obstetricians and Gynecologists on vaginal birth after cesarean section, Dr. Kumakiri said.

In the 19 pregnancies that resulted in vaginal deliveries after LM, the average diameter of the largest myoma at LM was 68.7 mm, the average number of enucleated myomas was 2.9, and the average number of hysterotomies was 2.5.

In the 68 patients who received LM but didn't get pregnant, the average diameter of the largest myoma was 62.3 mm and the average number of enucleated myomas was 3.7.

No patient suffered uterine rupture during or after delivery, the investigators said, perhaps because all enucleation wounds were sutured, as they would be with laparotomy.

Because some patients had infertility factors other than myoma before LM, the researchers said, "it is necessary to examine a larger population, not including such patients, to evaluate whether the implantation environment alone is responsible for the reduced fertility associated with uterine myomas."

—Kevin Foley

Adding Ultrasound Ups Sensitivity of AFP Screen to 98%: Study

BY JERRY INGRAM
Contributing Writer

ORLANDO — Adding ultrasound to maternal serum AFP screening may help clinicians identify fetal neural tube defects, according to research that was presented during the annual meeting of the American Institute of Ultrasound in Medicine.

"From the standpoint of neural tube defect detection, the maternal serum AFP screening test remains a good test — in our series, more neural tube defects were detected if the test was used than if it was not used—but the sensitivity of the test is significantly better if gestational age is confirmed with ultrasound," explained Jodi S. Dashe, M.D., of the University of Texas Southwestern Medical Center, Dallas.

"We were also pleased to find that in this series, the detection of neural tube defects with standard ultrasound was excellent," Dr. Dashe added during the meeting.

Dr. Dashe and her associates conducted a retrospective study at their center to examine the role of ultrasound along with AFP screening for neural tube defects. For this investigation, they reviewed prenatal and neonatal datasets to find pregnancies that were complicated by neural tube defects.

'Having an AFP screening test might become an indication for standard ultrasound' to improve test accuracy and to detect defects on ultrasound.

Following their standard protocol, Dr. Dashe's team offered AFP screening between 15 and 21 weeks of gestation and performed specialized ultrasound for patients with an AFP of at least 2.50 multiples of the median (MOM).

For patients with an AFP of 2.00-2.49 MOM, standard ultrasound was performed.

Investigators identified 68 singletons with neural tube defects, 60 of which were identified prenatally.

Clinicians performed AFP screening in 33 study patients. An AFP elevation of at least 2.50 MOM occurred in 22 patients (67% sensitivity). Among patients with an AFP that was less than 2.50 MOM, the AFP calculation did not include ultrasound measurements in eight of the women.

Additionally, ultrasound was performed during the second or third trimesters in 66 women.

Using ultrasound and AFP screening, they were able to detect 98% of neural tube defects in these patients.

"Other programs may want to reevaluate their experience with the AFP screening test and how well it detects neural tube defects and ventral wall defects. Over time, having an AFP screening test might become an indication for standard ultrasound, both to improve the accuracy of the test and because these anomalies may be detected by the ultrasound," Dr. Dashe said.

She noted that her study did not (and could not) perform a cost-benefit analysis, which would differ in different populations. She therefore is not recommending routine ultrasound for this indication.

In addition, Dr. Dashe noted a few limitations of this particular study, pointing to its retrospective nature and the fact that these results might not be generalizable in other centers. ■