7 RADIOFREQUENCY ABLATION FOR TWIN-REVERSED ARTERIAL PERFUSION E: THE NORTH AMERICAN FETAL TREATMENT NETWORK (NAFTNET) EXPERIENCE

HANMIN LEE[1], TIMOTHY CROMBLEHOLME[2], DOUGLAS WILSON[3], [1]University of California, San Francisco, San Francisco, California, [2]Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, [3]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

OBJECTIVE: Significant mortality occurs with Twin-Reversed Arterial Perfusion (TRAP) sequence due to a high output state in the normal or "pump" twin as well as return of doubly-deoxygenated blood. Multiple strategies have been used to stop flow in the acardiac mass to prevent complications. Radiofrequency ablation is a minimally invasive method for treatment of TRAP sequence. We report a case series of 83 patients undergoing radiofrequency ablation of the acardiac mass for the treatment of TRAP sequence.

STUDY DESIGN: A multi-institutional restrospective review was performed of all cases from ten member institutions of the North American Fetal Treatment Network. Maternal variables included surgical complications and length of hospital stay. Prenatal variables included size of the acardiac fetus, IUFD, and amnionicity. Postnatal outcome variables included gestational age at delivery and survival to one month of age.

RESULTS: There were two instances of postoperative failure with persistence of flow to the acardiac twin. Length of stay after the RFA was 1.19 +/− 0.76 days. The mean size of the acardiac mass was 103 +/− 73% that of the normal twin. There were 9 pump twin IUFD's. Overall newborn survival to one month for pump twins was 81% overall (67/83). Survival in monochorionic/diamniotic twin pregnancies was 85% (58/68) with an average gestational age at delivery of 34.5 weeks; for monochorionic/monoamniotic twin pregnancies was 33% (2/6) with an average gestational age of delivery at 26.7 weeks; and for triplet pregnancies with a monochoronic, diamniotic pair, 78% (7/9) with an average age at delivery of 31.3 weeks.

CONCLUSION: This is the largest reported series of patients treated with TRAP sequence. RFA of the acardiac mass is an effective, minimally invasive treatment for TRAP sequence with improved results compared to previously published series using other techniques. Additional monochorionic/monoamniotic cases are needed to better define outcomes.

0002-9378/$ - see front matter
doi:10.1016/j.ajog.2008.09.033

8 A RANDOMIZED CONTROLLED TRIAL OF ANTIOXIDANT VITAMINS TO PREVENT SERIOUS COMPLICATIONS ASSOCIATED WITH PREGNANCY RELATED HYPERTENSION IN LOW RISK, NULLIPAROUS WOMEN

JAMES M ROBERTS[1], [1]for the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development MFMU Network, Bethesda, Maryland

OBJECTIVE: Oxidative stress is proposed as a central pathophysiological factor in preeclampsia. Although in a small randomized controlled trial in 1999, antioxidant Vitamins C and E reduced the incidence of preeclampsia by 60%, recent larger trials of low risk and high risk women showed no benefit and suggested fetal risk. This trial evaluated the effectiveness of antioxidant therapy to prevent serious morbidity associated with pregnancy related hypertension.

STUDY DESIGN: In this randomized, placebo controlled, doubly masked trial of low risk nulliparous women, daily treatment with Vitamins C (1000 mg) and E (400 IU) (vitamins) or placebo began at 9 - 16 weeks gestation. The primary outcome was severe pregnancy related hypertension or pregnancy related hypertension with at least one of the following: renal or hepatic dysfunction, thrombocytopenia, eclampsia, indicated preterm delivery < 32 weeks gestation, small for gestational age infant (< 3rd centile), stillbirth or neonatal death up to discharge. Secondary outcomes included preeclampsia diagnosis and measures of maternal and fetal/neonatal safety.

RESULTS: From 2003 - 2008 10,154 women enrolled. Loss to follow up was 1.8% resulting in 4993 recieiving vitamins and 4976 placebo. Recruitment was at an average of 13.4 weeks with 44% enrolled before 13 weeks. Demographic findings did not differ by treatment. The racial mix was diverse with 31% Hispanic and 26% African American. The mean prepregnancy BMI was 25.4 ± 6.0, 16% were smokers, and 77% entered the trial taking multivitamins. Vitamin therapy did not reduce the primary outcome (vitamins = 6.1% placebo = 5.8%) or the incidence of preeclampsia (vitamins = 7.2% placebo = 6.7%).

CONCLUSION: Therapy initiated with the antioxidant Vitamins C and E prior to 17 weeks gestation in nulliparous low risk women does not reduce the frequency of serious complications associated with pregnancy related hypertension, nor does this treatment reduce the diagnosis of preeclampsia.

Supported by NICHD and NHLBI

0002-9378/$ - see front matter
doi:10.1016/j.ajog.2008.09.034