



Radiofrequency ablation with simple needle for selective reduction in MCDA twins

Rahimi-Sharbat F, Amjadi N
Tehran University of Medical Science, Tehran, Iran

Objective

There are different modalities for selective reduction in complicated monochorionic pregnancies and these methods are necessary for preserving life of the co-twin. Umbilical cord radiofrequency ablation is one of the methods proposed for the full and permanent closure of the umbilical cord. The present prospective observational study was conducted to evaluate the consequences of using radiofrequency ablation for selective reduction in complicated monochorionic pregnancies, with simple needle to save the co-twin and reduce maternal complications in a teaching hospital affiliated to Tehran University of Medical Sciences, between November 2010 and November 2015.

Methods

The study was conducted on pregnant women with monochorionic diamniotic pregnancies between November 2010 and November 2015. After complete ultrasound examination, a perinatologist performed radiofrequency ablation on all pregnant women participating in the study under local anesthesia and using a simple needle. Before and after the procedure, the maximum systolic flow of middle cerebral artery (MCA) was measured in the healthy twin. If the radiofrequency ablation was successful, the patient was discharged and provided with outpatient pregnancy care.

Results

A total of 103 women with monochorionic diamniotic pregnancies were included in the study and treated with radiofrequency ablation. Only one case was dichorionic triamniotic triplet pregnancy. All procedures were technically successful in achieving selective reduction. The mean gestational age among participating women was 20 weeks and 1 day (range, 15w, 2d - 26 weeks of gestation). The most frequent reasons for carrying out radiofrequency ablation were TTTS, in 59 (57.28%) of the participants (52 women with TTTS stage III, 6 women with TTTS stage II and one case with stage I), followed by fetal anomalies (22 women, 21.35%), selective intrauterine growth retardation (16 women, 15.53%) and acardiac twins (6 women, 5.82%). Amnioreduction was done in 14 (13.59%) cases before procedure, which most of them were TTTS at stage III because of the difficulty to access the targeted fetus. Three pregnancy terminations (one acardiac and two cases with TTTS at stage III) were performed in the first two weeks of doing the procedure, according to the mother request. Finally pregnancy outcomes were assessed on 100 cases. Out of these 100 cases, 73 (73%) resulted in live delivery. There were 20 cases (19.41%) with intrauterine death and 3 cases (2.91%) with rupture of membranes, within two weeks of the radiofrequency procedure.

Conclusion

Radiofrequency ablation with simple needle is useful and compared to usage of tines needle, is considered safer, cheaper and suitable for selective reduction in complicated monochorionic pregnancies.