

Outcome of radiofrequency ablation (RFA) using cool tip ablation system in twin reversed arterial perfusion (TRAP) sequence – A single centre experience

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ABSTRACT

Introduction: Twin reversed arterial perfusion (TRAP) sequence is a unique complication affecting around 1% of monochorionic pregnancy where the acardiac twin is perfused by the pump twin via arterio-arterial and veno-venous anastomosis. In cases with continuing reverse arterial flow, the perinatal outcome is poor as it may lead to high output cardiac failure of the pump twin resulting in hydrops fetalis and/or intrauterine fetal death (IUFD). Various fetal interventions have been developed to cease the perfusion of the acardiac twin including the recent minimally invasive technique – intrafetal radiofrequency ablation (RFA). **Case Series:** We present a case series analysing the outcome of RFA done for MCDA twin with TRAP sequence in Hospital Tunku Azizah from May 2023 till April 2024. RFA was offered when there is significant risk of death towards the pump twin evidence by presence of either large acardiac mass, polyhydramnios, or/and cardiac strain in the pump twin. A total of 7 patients underwent RFA using cool tip ablation series between 19-26 weeks gestation. All procedures were successful and able to cease the perfusion to the acardiac twin. Overall outcome is excellent with 100% live birth rate of the pump twin. 50% delivered preterm at 30-32 weeks. Mean gestational age at delivery is 34 weeks with mean birthweight of 2.1 kg. Mean NICU stay is 25 days. **Conclusion:** RFA is effective in managing MCDA twin complicated with TRAP sequence resulting in a good outcome of the pump twin. Early diagnosis and referral to a fetal therapy centre is indicated so that therapeutic intervention can be offered.