Two cases of first trimester diagnosis of acardiac twins by 3D/4D ultrasound
Podobnik P, Podobnik M, Gebauer B, Brlečić I, Miličić I
Clinic Podobnik, Zagreb, Croatia

Objective
Twin reversed arterial perfusion (TRAP) sequence occurs only in the setting of a monochorionic pregnancy and complicates 1% of monochorionic twin gestations, with an incidence of 1 in 35,000 births. In the TRAP sequence, the acardiac/anencephalic twin receives all of its blood supply from the normal, “pump twin”.

Methods
Report of 2 cases.

Results
First case of TRAP sequence was diagnosed at 8 weeks of gestation and controlled at 10 weeks using transvaginal 3D/4D ultrasound. 3D/4D ultrasound imaging showed a monovhorionic-monoamniotic twin pregnancy with normal morphology and growth of the first twin and growth restriction of the second twin, with abnormal cephalic pole (acrania), no presence of cardiac activity and presence of retrograde perfusion in the umbilical artery. The parents decided to terminate of pregnancy. The second case reports a conservative management for a similar case and with good pregnancy outcome. Ultrasound imaging showed a monochorionic-monoamniotic twin pregnancy with normal morphology and growth of the first twin. 3D/4D ultrasound examination showed growth restriction of the second twin, with abnormal cephalic pole (acrania), only lower extremities present, no presence of cardiac activity and presence of perfusion in the umbilical artery. The acardiac/pump twin AC ratio was lower than 50% and we oped for a conservative treatment with weekly ultrasound examination for early detection of congestive heart failure and hydrous signs. The biometry and fetal Doppler measurements of the pump twin were normal throughout the pregnancy. No signs of cardiac failure were presented. At 24. weeks of gestation reversed umbilical flow was detected in the acardiac. The spontaneous cessation of blood flow in the umbilical artery of the acardiac twin was observed at 26 weeks of gestation. Intact neonate was delivered in the 37th week of gestation by cesarean section with no fetal complications.

Conclusion
Early confirmation of TRAP sequence allows early treatment and better outcome of pregnancy.