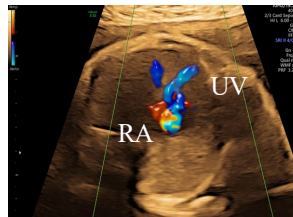


EP05.105 Umbilical–Portal–Systemic Venous Shunts: A Prenatal Ultrasound Case Series and Perinatal Outcomes

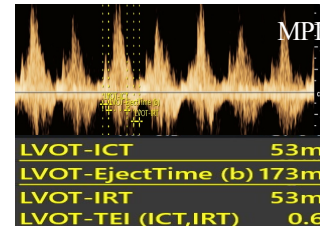
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Introduction

Umbilical–portal–systemic venous shunts (UPSVS) are rare congenital venous malformations, reliably detected on ultrasound yet underreported. They may be associated with aneuploidy and carry a higher risk of fetal growth restriction, intrauterine demise and perinatal morbidity/mortality. We present a case series of 3 antenatally diagnosed UPSVS.



Case 1: colour Doppler – UV draining directly into the RA (absent ductus venosus, Type I shunt)



Case 1: colour Doppler –Myocardial performance index in Type 1 shunt

Shunt Classification (Achiron et al.)

UPSVC Shunt	Characteristics	Outcome
Type I USS	UV draining into RA/ SVC/ IVC/ Int Iliac; Absence of DV (100%)	Lowest rate of LBR (<33%); High mortality (30%); Major anomaly (>50%)
Type II DVSS	DV draining to systemic/ hepatic vein	More survival; Aneuploidy T21 (21%)
Type IIIa IHPSS	Connection b/w portal and hepatic systemic vein	IUGR (58%); Anomalies (42%); Deranged LFT
Type IIIb EHPS S	Connection b/w MPV/SV to systemic veins	Varied outcome; Difficult to diagnose in antenatal period

Case Series Details

Case	GA at Diagnosis	Shunt Type & Finding	Delivery	Neonatal Course & Outcome
1	30 wks (growth scan)	Type 1 — absent ductus venosus; single umbilical artery, small VSD; MRI: right UV → right atrium	Caesarean, 34 wks	NIV × 4 wks (PDA); discharged at 5 wks
2	27 wks (anomaly scan)	Type 3 — absent extrahepatic portal vein, confirmed on fetal MRI	Vaginal, 39 wks	2 wks NICU stay; discharged at 3 wks
3	34 wks (growth scan; NT/NB missed)	Type 1 — isolated ductus venosus agenesis; anomaly scan normal	Vaginal, 36 wks	HFNC × 1 wk; discharged at 2 wks

Clinical Take-Aways

Invasive genetic testing was offered but declined in all cases due to advanced gestation at presentation

Antenatal Detection

Doppler ultrasound with fetal MRI enables reliable diagnosis and classification of UPSVS type.

Genetic Counselling

Genetic testing should be offered in every case, regardless of gestation at presentation.

Delivery Planning

Outcome depends on cardiac overload and shunt type — plan delivery at a tertiary NICU facility.

Take-home message: Awareness of UPSVS is limited but increasing with advanced ultrasound and Doppler. Genetic testing should be offered in all cases; prognosis depends on prenatal cardiac overload and shunt type. Delivery should be planned at a tertiary-level NICU facility for good perinatal outcomes.