A 39-year-old Japanese multiparous woman was referred to our hospital at 28 weeks of gestation. Her prenatal ultrasound examination revealed a intra-abdominal umbilical vein varix (IUVV) with a diameter of about 12mm. Additionally, a congenital intrahepatic portosystemic shunt (IPSS) was diagnosed using 3D-HDlive Flow imaging. The blood flow of the portal vein was directly associated with the bifurcated hepatic vein through the aneurysmal portion in the liver. AF chromosomal examination confirmed trisomy 21. At 35+5 wks, emergent C-section was conducted due to NRFS. A 1,763-g female infant was born with an Apgar score 8/9. Postnatal CT scan at day48 indicated IPSS. Postnatal CT scan indicated IPSS.

**Introduction**

Assessment of an anatomical association of the umbilical-portal and hepatic venous system (UPHVS) is important for prenatal diagnosis of fetal morphological and genetic abnormalities. This case shows the usefulness of objective assessment of abnormal UPHVS using fetal ultrasonography with 3D-HDlive Flow imaging.

**Case**

- A 39-year-old Japanese multiparous woman
- Equipment: Voluson E10, GE Healthcare Japan
- Fetal US findings at 28 weeks of gestation:
  - Intra-abdominal umbilical vein varix (IUVV);
  - The diameter of varix was about 12mm.
- Congenital intrahepatic portosystemic shunt (IPSS)

3D-HDlive flow imaging (3D-HDFI) revealed that the blood flow of the portal vein was directly associated with the bifurcated hepatic vein through the intra-right liver aneurysmal vascular enlargement (Figure1). AF chromosomal examination confirmed trisomy 21. At 35+5 wks, emergent C-section was conducted due to NRFS. A 1,763-g female infant was born with an Apgar score 8/9. Postnatal CT scan at day48 indicated IPSS.

**Conclusion**

3D-HDlive Flow imaging is useful for prenatal objective assessment of an anatomical abnormality of the umbilical-portal and hepatic venous system.