Umbilical vein blood flow at 11-13 weeks of gestation in twin pregnancy is associated with fetal growth.

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Objective
To demonstrate the relationship between discordance of umbilical venous flow volume (UVF) at 11-13+6 weeks’ gestation and discordance of birth weight in dichorionic diamniotic (DD) twin pregnancy.

Methods
Prospective study was conducted in single perinatal center. All patients with DD twin pregnancy. Transabdominal ultrasound were performed at 11-13+6 weeks’ gestation, and UVF was evaluated in free loop of umbilical cord. The discordance ratio of UVF was determined between the fetuses. Subjects were divided into two groups; one was that the discordance of UVF was more than 75th percentile value (Case) and the other was less than 75th percentile value (Control). The discordance of birth weight was compared between the two groups.

Results
Fifteen cases of Case group and forty-five cases of Control group were analyzed. Discordance of CRL was between two groups (2.8 vs. 4.5, p=0.24). Discordance of birth weight was more frequently performed in the Case group than in the Control group (14.6 vs 8.0 p=0.04).

Conclusion
In DD twin, Fetal growth at first trimester and subsequent fetal weight at birth, although two fetuses development in the same intrauterine environment. The ratio between UVF in each twin could be predictive of fetal development.