Constriction of intrahepatic umbilical vein and loss of fetal movement during granulocyte monocyte apheresis for generalized pustular psoriasis; A case report

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**Introduction**
Generalized pustular psoriasis (GPP) is a severe inflammatory disease with adverse effects on pregnant women and fetuses. Granulocyte monocyte apheresis (GMA) has been performed for GPP, but rarely in pregnancy. We report a case that showed constriction of part of the fetal umbilical vein (UV), with disappearance of fetal movement and decreased cardiotocogram (CTG) variability during GMA.

**Case**
A 30-year-old woman who had been diagnosed with psoriasis vulgaris at 3 years of age became pregnant for the first time. She developed GPP at 26 weeks of gestation (WG) and underwent a first GMA treatment at 28-3WG. Three days later, she developed fever and perceived decreased fetal movement. She was hospitalized because of worsening skin symptoms at 29-3WG and underwent a second GMA treatment.

At 29-5WG, we observed decreased acceleration and variability on CTG and could not confirm fetal movement for 40 minutes even once with ultrasound. We observed constriction of part of the intrahepatic fetal UV just proximal to the ductus venosus and high echoic region in the constricted part (pointed with yellow). Blood flow was otherwise normal. We followed up in consideration of likelihood of the fetal brain death syndrome. However...

**Discussion**
The cause of UV constriction was unknown. Spasm? Thrombus? The presence of GPP or circulatory changes induced by GMA may have contributed. There is no report of an association between GPP and fetal Doppler findings. Interestingly, UV constriction was reversible and only affected part of the UV.

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**Figure 2** Constriction of part of the intrahepatic fetal UV.

**Figure 3** The course of symptoms and treatments

*PSL; prednisolone CYA; ciclosporin Mg; magnesium sulfate

**Figure 4** Changes of the CTG

CTG findings and fetal movement had improved spontaneously. We did not detect recurrence of UV constriction or loss of fetal movement, but fetoplacental circulation gradually deteriorated. She went into labor and delivered vaginally at 33-4WG. After delivery, her eruption was improved immediately.

**<Placenta>**
365g Subchorionitis Blanc1

**<Neonate>**
Female 1458g (-1.76SD)
Apgar score 8/9
UApH 7.274 pO2 21.7 pCO2 56.0
No congenital anomalies
Brain MRI at day 53; Normal
She is 1 year old with normal growth and development now.