

**The placenta on fetal MRI in congenital heart disease-can we learn something new?**

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**Objective:** Fetal MRI has shown to be a valuable tool to evaluate the placenta. Little is known about the placenta in the presence of congenital heart disease (CHD). This fetal magnetic resonance imaging study aimed to identify abnormal placental signals and pathologies throughout gestation in fetuses with CHD.

**Methods:** The 1.5 tesla magnetic resonance examinations of 199 fetuses with CHD were retrospectively investigated. The placenta was evaluated on T1, T2, echoplanar and diffusion weighted images. (GW 18-35)

**Results:** Fetuses with CHD show non age related premature maturation signs on T1 weighted images in 17% , T2 weighted images in 18% and echoplanar sequences 12%. Oedematous placenta signals were noted in 6%. Bleeding, Hematoma and Infarction was present in 8% on T1, 6% on T2 and 6% on echoplanar sequences. Fetuses with a right heart disease had significantly more placental inhomogenities than healthy fetuses.

**Conclusion:** This is the first study to show placental abnormalities on fetal MRI in fetuses with CHD. The findings need to be investigated further.