

EP07.39 Fetal cerebral assessment using Sylvian fissure angle in fetal growth restriction

Nana Matsuzawa, Yuka Yamamoto, Motoki Tanaka, Shun Masaoka, Asako Kumagai, Jun Takeda, Atsuo Itakura
Department of Obstetrics and Gynecology, Juntendo University School of Medicine, Tokyo, Japan



There is no COI to disclose in this study.

Introduction: It is known that some cases of fetal growth retardation (FGR) have a poor prognosis for long-term neurological development after birth. A significant decrease in intracranial volume and cortical gray matter in FGR have been reported by neonatal MRI. As for the brain gyrfication, increased or unchanged cortical folding in FGR was reported in neonatal period. Sylvian fissure angle (SFA) has shown to be an indicator of fetal cortical development.

Objective: We investigated whether the SFA in FGR is appropriate for gestational age.

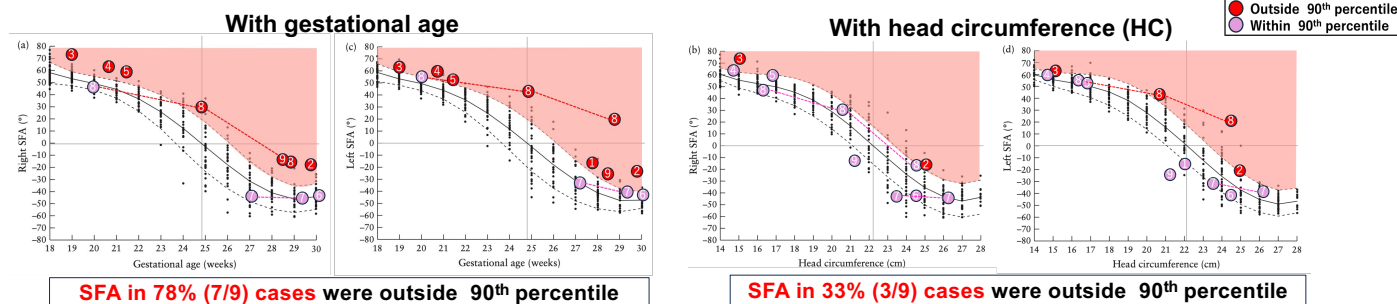
Methods: Nineteen FGR cases in which brain imaging could be evaluated and managed at our hospital from Sep. 2022 to Sep. 2024 were included. FGR is defined as -1.5 SD or less of the estimated fetal weight (EFW). SFA was measured from the coronal view of acquired 3D image according to the previous report (Poon and Pooh *et al. Ultrasound Obstet Gynecol* 2019). **Group A is with structural or genetic anomalies (n=9)**
Group B is without any anomalies (n=10).

Characteristics:

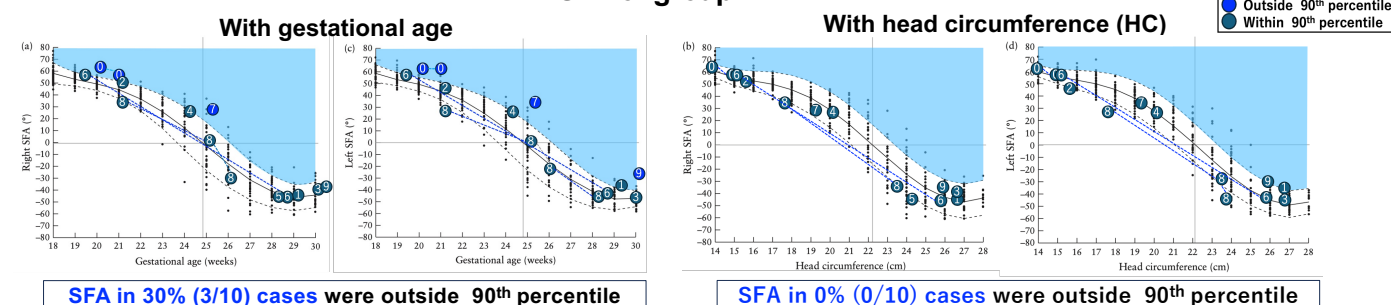
	Group A (n=9)	Group B (n=10)	P
First visit (weeks)	25 $\pm$ 4.6 SD	25 $\pm$ 4.4 SD	0.91
Estimated fetal weight	-2.3 $\pm$ 0.6 SD	-2.5 $\pm$ 0.8 SD	0.55
Head circumference(HC)	-3.2 $\pm$ 1.4 SD	-2.7 $\pm$ 1.2 SD	0.55
Brain sparing cases	6/9 (66.7%)	4/10 (40%)	0.24
Complications	✓ Chromosomal abnormalities ✓ Congenital heart disease ✓ multiple structural anomalies ✓ Cytomegalovirus infection	✓ Hypertensive disorders of pregnancy ✓ Antiphospholipid antibody syndrome ✓ Giant subchorionic hematoma ✓ Excessive umbilical coiling cord	

Result:

SFA of group A



SFA of group B



Conclusions:

- ✓ In isolated FGRs, many cases had appropriate SFA for gestational age and all of them had equivalent to their head circumference.
- ✓ FGRs with anomalies, the development of the cerebral cortex appeared to be premature.