Prenatal diagnosis of Coarctation of Aorta can Prevent a Postnatal Crisis: A case report

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Background

Fetal cardiac echo is helpful to diagnose congenital heart disease. But coarctation of the aorta is still difficult to diagnose during fetal life. Prenatal diagnosis improves survival and reduces morbidity by allowing planned delivery, early medication, and early surgery.

Case report

A prenatal fetal ultrasound survey on a fetus of 24 weeks of pregnancy noted some mild degree of enlargements at the RA and the RV. He was referred to pediatric cardiologist for fetal echocardiography study when 32 weeks of pregnancy. The cardiac function was normal, but there were consistently larger right heart than the left heart, including the RA, RV, MPA and PDA consistently larger than their left heart counter parts of the LA, LV, ascending AO, AO arch, and the isthmus, suggesting a diagnosis of Coarctation of the AO. The patient was delivered via NSD at term smoothly. The APGAR score was 8→9.

Immediately after birth, a diagnosis of coarctation of aorta with a relative smaller LV was confirmed by echocardiogram. PGE1 infusion was used to keep PDA open. However, the PDA became smaller rapidly, in spite of high dose PGE1 (100ng/kg/min). Therefore, a surgical coarctectomy, in association with end-to-end anastomosis and PDA ligation, was performed on his 3rd day of life. The postoperative course was complicated with low cardiac output, flushing skin and unstable hemodynamic status. He was trasferred to SBR on the 19th op. day. Follow-up echocardiograms showed a well patency of the AO arch through the descending AO. The left heart improved smoothly. He was discharged at 46 days of age.

Discussion

To help for an early diagnosis of the CoA at fetal life, Matsui et al have presented a data base about the z-score of the isthmal-to-ductal diameter ratio throughout the pregnancy. However, in this presented case we still confronted some rapid constriction of the PDA, in spite of our fetal diagnosis of his CoA and early infusion

of PGE1 on the neonate. In case the CoA of this neonate were not known when he was born, the patient might have been suffering some CoA crisis when the PDA closed suddenly.