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A Case Report of Prenatal Diagnosis of Arteriovenous Malformation in Liver

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Introduction

Arteriovenous malformation (AVM) are congenital lesions consisting in tangle of arteries and veins connected by one or more fistulae. Congenital AVM's are found most commonly in Brain, Liver and extremities.

Congenital AVM's are very rare and there are very less cases reported till date.

This kind of malformation can generate various clinical signs from being asymptomatic to life threatening haemorrhage, Heart failure, Liver failure **[**1**]**.

Few cases which are reported of AVM accompany surgical intervention due to complications **[**2**]**. Here in we report a prenatal case of congenital AVM which was managed on medicine postnatally and the child is healthy.

Case Report

35-year-old patient with history of Infertility had come to our clinic for treatment. Patient underwent basic blood investigation initially which revealed normal parameters. Her TVS showed multiple small fibroids which did not need any surgical interventions. She went for IVF and conceived in first attempt. Her routine USG was normal. USG at 24 weeks of gestation revealed vascular malformation just behind anterior abdominal wall towards left of midline measuring 20.8mm x 18.2mm x 27mm. Malformation had high arterial and venous flow. It seemed to have blood supply from umbilical artery and drainage into Inferior vena cava. Strict monitoring was kept with expectant management as the pregnancy was stable and there was no sign of worsening.

MRI for foetal screening was done which showed ill-defined area of altered signal intensity in left lobe and diffused dilatation of umbilical vein -left portal vein. Prenatal karyotype was suggested which showed Robertsonian translocation.

She had foetal Echo done which showed normal systemic venous drainage, dilated hepatic veins,? AV Malformation draining to hepatic venous system, normal pulmonary venous drainage and dilated R-A Size.Abdominal USG was done which showed vascular malformation involving left lobe of liver.

Beta blocker was started which she responded well and did not need any surgical intervention at present.

Pregnancy was carried till term and delivered by C-section. Baby girl of 3.1 kg was delivered.

Discussion

Lasjaunias **[**3**]**, emphasised that arteriovenous malformation are result of biological dysfunction of remodelling process at the junction of capillaries & veins.

Construction of vascular structure with morphological and physical maturation is result of complex biological factors & events starting in the embryo and continuing in the foetus, neonate & young infants.

The vascular structure are maintained and repaired and modified in accordance with metabolic demand and genetic control. The alteration in program will result in different reconstruction. Therefore, abnormal vascular structure could be related either to construction failure or failure in the renewal process, which function until the cell lines become committed to certain cell type.

If mutation occurs during embryogenesis, AVM may form. Furthermore, earlier the causative event occurs, larger the area of impact and higher is the chance of multifocality will be there. Later the trigger occur, more focal defect and smaller the lesions. The AVM growth could be artributed to peripheral angiogenesis or high flow angiopathic changes.

The revealing triggers are unknown but could be mechanical, hormonal, pharmaceutical haemodynamic , thermal, radiation, viral, infection ,metabolic etc.

From diagnostic point of view Dan suggested that colour Doppler imaging is the most appealing method for in utero diagnosis of foetal AVM's **[**4**]**.

The in utero diagnosis could provide information on pregnancy surveillance, site of delivery and appropriate postnatal therapy. The continuous assessment of cardiac failure or hydrocephalus which are important prognostic indicator and can be assessed. postnatal therapy. The continues amount of cardiac failure or hydrocephalus which are important prognostic indicators could be addressed than.

Conclusion

We report a rare case of vascular malformation involving left lobe of liver, diagnosed in utero remaining asymptomatic after birth and treated successfully with medicines postnatally.

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