

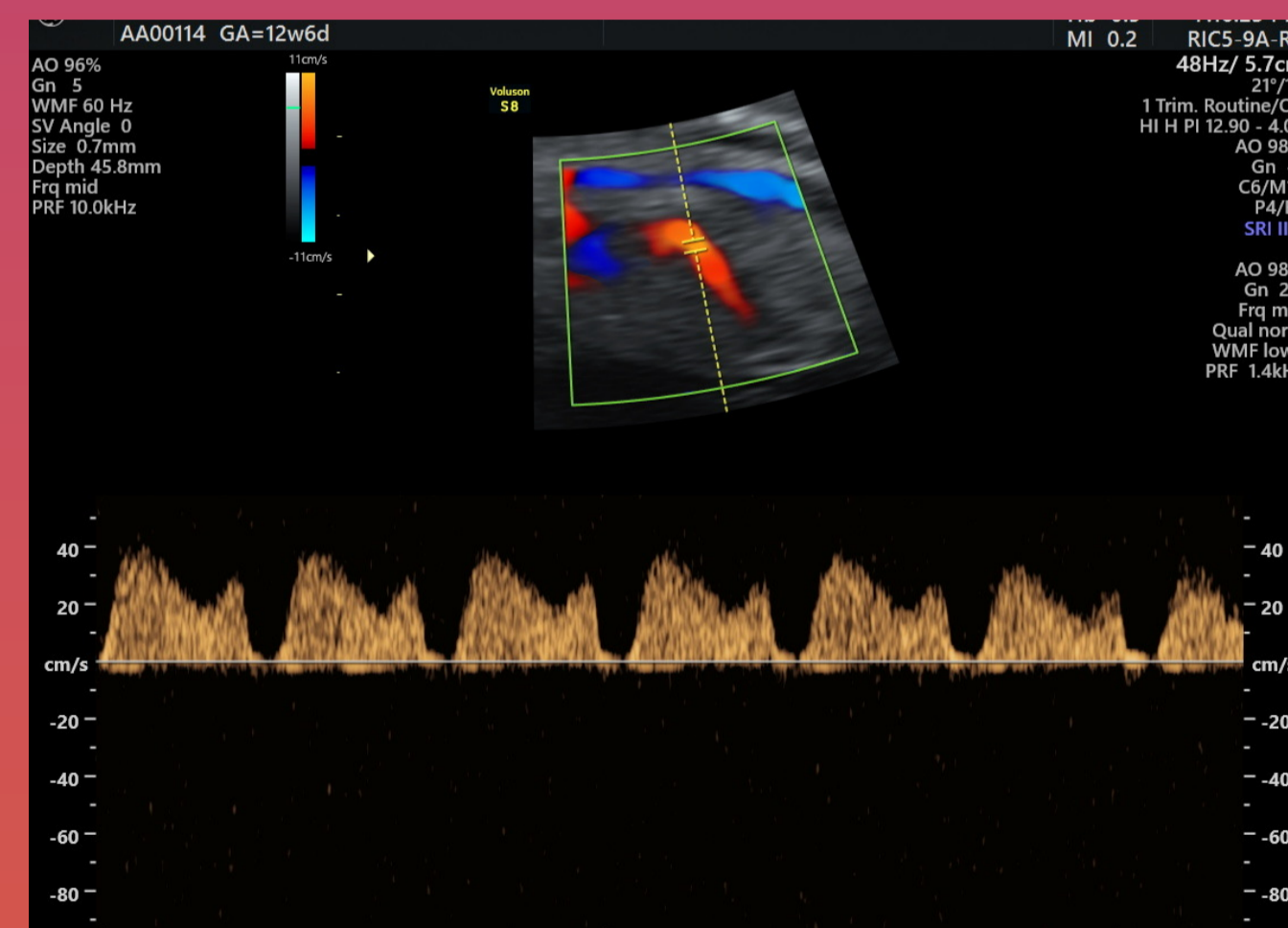
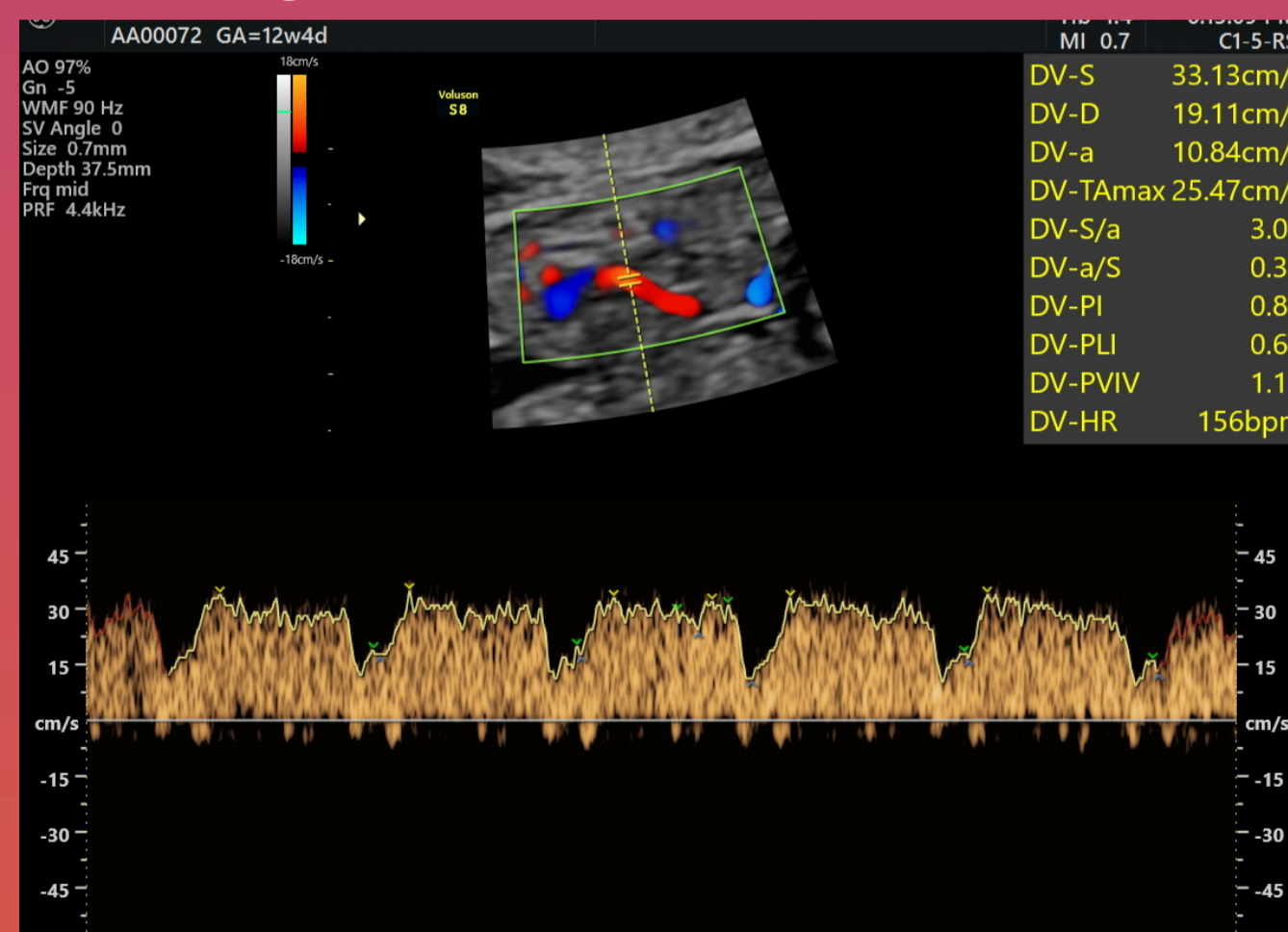
PRENATAL DIAGNOSIS AND POSTNATAL OUTCOME IN FOETUSES WITH DUCTUS VENOSUS ABNORMALITIES

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INTRODUCTION- At 11-13 weeks reversed a-wave is found in about 3% of Euploid fetuses, 65% of fetuses with trisomy 21, 55% of fetuses with trisomy 18 and 55% of fetuses with trisomy 13. Reversed a-wave is associated with increased risk for chromosomal abnormalities, cardiac defects and fetal death. Reversed a-wave is more common if the gestation is 11 than 13 weeks, the fetal nuchal translucency is high, the maternal serum PAPP-A is low and the mother is Black. The pregnancy outcome is normal in about 80% of cases with reversed a-wave.

The risk of miscarriage or fetal death between 11 weeks and delivery is about 2%. The prevalence of reversed a-wave at 11-13 weeks is more than 10% in pregnancies resulting in fetal death and less than 4% in those resulting in live birth.



Above images showing normal flow and absent 'a' waves in ductus venosus, respectively

References- <https://courses.fetalmedicine.com>

AIM- To study the antenatal and postnatal outcome in fetuses with Ductus venosus abnormalities and its association with chromosomal abnormalities.

MATERIALS AND METHODS- A retrospective randomised study was done at Aayushya fetal medicine center, Indore, Madhya Pradesh, India for a period of over 8 years from 1st Jan 2015 to 30th March 2023. All the antenatal patients from 11 to 14 weeks of pregnancy were included in the study. These patients were scanned with E8/E10 GE Voluson machine by transabdominal and transvaginal route.

RESULTS- A total of 7682 patients were scanned during the study. It was found that during Nuchal Translucency scan, 26 patients have abnormalities of Ductus venosus. It was observed that 18 out of 26 patients were primigravida. It was found that 18 fetuses had reversal of 'a' wave in ductus venosus, 3 fetuses had Agenesis of ductus venosus and 2 fetuses had aberrant course of ductus venosus. Ductus venosus abnormalities were associated with increased nuchal translucency in 8 cases, absent nasal bone in 2 cases, single umbilical artery in 2 cases and associated with cardiac defects in 2 cases. There was Intrauterine fetal demise in 3 cases. One fetus was affected with lethal type of skeletal dysplasia. It was found that 2 fetuses were found to have Trisomy 21 and 2 were found to have Trisomy 18 and one was positive for monosomy X.

CONCLUSIONS- Assessment of the ductus venosus improves the performance of combined screening increasing the detection rate from 90% to 95% and decreasing the false positive rate from 3% to 2.5%. The prevalence of major cardiac defects in euploid fetuses is about 4 in 1,000. The risk for major cardiac defects is increased if the fetal NT is high. In fetuses with increased NT the risk for major cardiac defects is increased if the ductus a-wave is reversed and decreased if the ductus a-wave is normal. If the ductus venosus a-wave is reversed it is important that detailed ultrasound examination is carried out to exclude or diagnose major cardiac defects.