

THE CURRENT DIAGNOSIS AND TREATMENT OF FETAL ANEMIA



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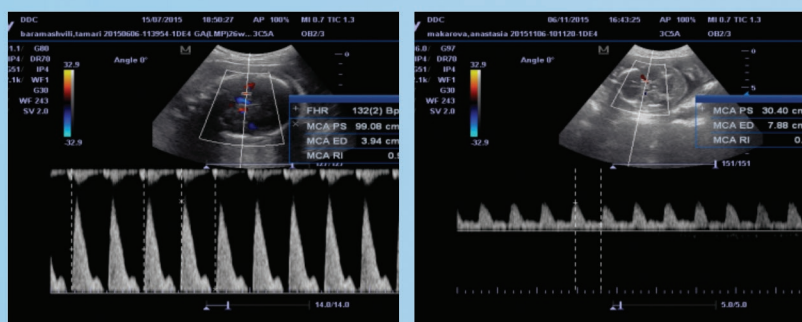
PURPOSE

- Anemia is a major contributor to fetal morbidity and mortality.
- The etiology remains diverse and is sometimes difficult to detect by ordinary clinical means.
- The middle cerebral artery Doppler peak systolic velocity (MCA-PSV) has been recommended as the methodology of choice to detect and assess suspected fetal anemia.
- This is the sensitive tool for both the evolution of fetal anemia and response the treatment

OBJECTIVE

- Evaluate our experience of applicability of Doppler method for diagnosis.
- Prediction of moderate-severe anemia in fetuses who have undergone one and more intrauterine transfusion.

MATERIALS AND METHODS



23w hydrops MCA-PSV 99 sm/sec
MoM – 3.38

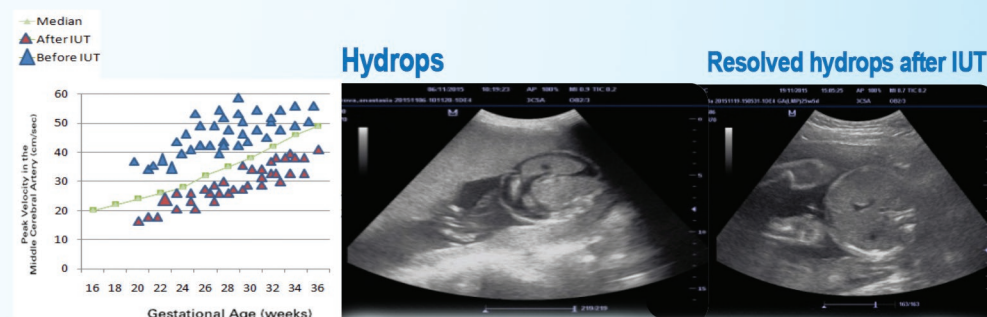
23w normal MCA PSV 30 sm/sec
MoM – 1.02

- Prospective study of 39 pregnant women with diagnosis of fetal anemia by Doppler peak systolic velocity was done
- Indication for intrauterine blood transfusion was means MCA-PSV MoM more 1.5 . Average of gestation age was 26.3 weeks (range 19 w – 34 w). In 22 case fetuses was hydropic, 17 - non hydropic
- 120 intrauterine blood transfusion was done.
- One transfusion was done in 10 cases, two – 8 cases , 3-6 transfusion - in 21 cases.
- Fetal blood sample from umbilical vein getting by cordocentesis checked for Hb, Ht, blood group and Rh, common blood test. Ht,Hb and Doppler MCA – PSV checked after blood transfusion.



RESULTS

- The reason of anemia in 34 cases was red blood cell alloimmunisation.
- In 4 cases - blood was positive for Parvovirus B19.
- 1 case – idiopathic thrombocytopenia.
- MCA-PSV for diagnosis moderate to severe anemia the sensitivity and positive predictive value before the first IUT was 94% and 90%. For second IUT was 85% and 77%, and for third and more IUT 70% and 58% respectively.
- The MCA-PSV was less predictive for times the subsequent IUT, although there is better correlation between MCA-PSV and fetal Hb.
- In cases needed subsequent (3 and >) IUT-s performed on fix interval depending of the result of Ht after last IUT (3-5 weeks)
- 29 fetuses delivered after 33 – 37 weeks of gestation , 6 fetuses delivered at 28 – 32.6 weeks of gestation and need intensive neonatal care – 4 survived. Antenatal death in 5 cases
- All survival rate non-hydropic fetuses - 87%, for hydropic - 66%



Hydrops

Resolved hydrops after IUT

CONCLUSION

- Fetal MCA-PSV has been established as the method to identify the presence of fetal anemia of any cause.
- It must be standard for management in cases where fetal anemia suspected.
- A confirmed prediction of severe fetal anemia enables optimal therapy, in beginning the intrauterine blood transfusion (MCA PSV > 1.5 MoM only for first two IUT-s) and than a timely delivery with full preparation for resuscitation of a probably severe anemic newborn.

