

13-15% increase in survival in non-hydrops fetuses using IVT as compared with IPT  
In hydrops fetuses survival rate is almost double in IVT then IPT So IVT is proffered method then IPT. The advantage of IVT over IPT is that a large volume of blood is well tolerated in IVT. IPT is practical method when there is difficulty with access to umbilical vein/ intrahepatic vein.  
The only accurate method for determining the severity of the disease is blood sampling by Cordocentesis and measurement of the fetal hemoglobin concentration.  
Cordocentesis should be performed for all patients with a history of severe disease and those with a hemolytic antibody level of more than a titer of 1 in 128 or more...

**Procedure:**

The abdomen is aseptically prepared.  
A 20-gauge, 7-inch Cook amniocentesis needle is then guided into the umbilical vein at the placental insertion under ultrasound guidance.  
Insertion site may vary according to the placental attachment.  
Fetal blood is aspirated for immediate Haematocrit, CBC, blood type and Rh factor.  
If haemoglobin is below the normal range, the tip of the needle is kept in the lumen of the umbilical cord vessel and fresh, packed o negative blood is infused manually into the fetal circulation through a 10-ml syringe. At the end of the transfusion, a further fetal blood sample is aspirated to determine the final hemoglobin concentration.  
Usually Transfusion is performed using type O, Rh-negative, CMV-negative, washed irradiated packed cells, cross-matched against maternal blood.

The volume of donor blood to transfuse may estimate using the equation:

Fetoplacental vol x (Haematocrit final-Haematocrit initial)

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Haematocrit in transfused blood

Fetoplacental vol = fetal weight in grams x 0.14

Antibiotic is given to prevent infection.  
Subsequent transfusions are given at 1-3-weekly intervals until 34-36 weeks, And their timing is based on the findings of non-invasive tests, such as Doppler studies,

and the knowledge that, following a fetal blood transfusion,

**Remember**

Approximately 1% of Haematocrit decreases in fetus after IVT due to disease process  
Combined IVT + IPT approach has been tried with result of delay in decrease from 1 % to 0.1 % in Haematocrit (target of 40% IVT and remaining IPT)  
Only IVT is practiced in all centers  
In severely anemic fetus at 18-24 weeks don't try to correct anemia acutely but repeat IVT/IPT frequently  
**OTHER TREATMENT MODALITIES**  
Plasmapheresis  
Intravenous Immune Globulin

**TIMING OF DELIVERY**

Depends on neonatal backup facilities available to an obstetrician.  
Up to 35 weeks- MCA Doppler  
After 35 weeks after steroid one can plan for delivery  
Cord blood investigation at time of delivery should be--  
-Blood group, direct coombs test, CBC with indices and S. bilirubin.

**WELCOME TO OUR CENTRE**

The majority of our patients are seen within one hour of arriving. We give opportunity to discuss at length her concerns about her pregnancy.

Patient will receive counselling concerning their options and it is important that she take as much time as she need to reach a decision in favour or against an invasive test. Please feel free to ask any questions and discuss any concerns you may have.

All the preliminary scan will be carried out by me only. I will perform the scan and the invasive procedure.

After patient has left our centre, if there are any unresolved questions, please write to me or contact me and leave a message, I will call you back if required.

**Outcome of pregnancy**

Outcome information is important for the audit of our service and for our continuing research in fetal medicine. Patient will be given an outcome form and I would be grateful if you would complete and return it to us. We may also need to contact you or your patient or hospital to obtain further details. All information received will be treated as confidential and anonymised data may be used for our research. If you have any objections to this, please let us know during your visit.

**Dr. Prashant Acharya**  
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**PARAS**  
**ADVANCED CENTER**  
**FOR FETAL MEDICINE**

4D Sonography, Color Doppler & Endoscopy Centre

**FETAL CARE | ULTRASOUND**  
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**HIGH RISK OBSTETRICS CARE**

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Fetal Medicine Foundation of India

**PARAS**

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WE HONOUR REFERENCES FOR

- Chorion Biopsy
- Amniocentesis
- Fetal Cordocentesis
- Fetal Reduction
- Amnio infusion / drainage / amniopatch
- Fetal Blood Transfusion
- Fetal Shunt Procedure
- Fetal Liver/Skin/Muscle Biopsy
- Detection of Chromosomal Anomalies
- "Recurrent Pregnancy Loss" - complete evaluation
- Genetic Counseling
- Comprehensive evaluation of Fetus at risk
- Once "USG abnormality detected" - What next?  
(counselling and further management of mother or fetus)

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FETAL BLOOD TRANSFUSION in Rh- Isoimmunization

Fetal Medicine Foundation (FMF, UK) certified Sonographer