Postal Registration No. TN/CH/(c)/59/2017-19
Registered News Paper Posted at Egmore R.MS. Patirika Channel.
Licensed to post without prepayment TN/PMG/(CCR)/WPP.500/ 2017 - 2019

RNI NUMBER : TNENG/2004/14197
RDISNo. 6342/98

Medi Quest BRS Hospital

A monthly News letter from BRS Hospital

ANEMIA IN PREGNANCY

Dr. Santosh T.N.S M.D., D.G.O.
Obstetric and Gynaecology
Consultant - BRS Hospital

Price Rs. 5/- Only

January - 2018

Medi - 19

Quest -01

Yearly Subscription

Rs 50/- only

Editors

Dr.B.Madhusudhan,
MS.MCh.,DNB(Plastic)

Dr.S.Ramesh,MD,DCh

28,Cathedral garden Rd,
Nungambakkam,
Chennai - 600 034.
Phone:
044 - 30414250
044 - 30414230
Email:
brsmadhu@yahoo.co.in
Web:
www.brshospital.com

RHESUS ISOIMMUNISATION

Rh blood group system is the second most important apart from ABO.It consists of 50 defined blood group antigens among which antigensD,C,c,E,e and K are important.Immunisation against Rh can generally occur through blood transfusion or placental exposure during pregnancy. The commonly used Rh factor Rh+ (or)Rh- refers to Dantigen which is most immunogenic.

INCIDENCE:

5-10% of Indian population is Rh negative whereas in Caucasians it is 15%

PATHOPHYSIOLOGY:

During pregnancy, small volume of fetal RBC continually get in to mother's circulation which increases as gestation progresses.In most women,this small load does not trigger immune response as fetal cells are rapidly cleared by maternal reticuloendothelial system. When large volume of fetal RBC enter mother's circulation, immune system is triggered and B lymphocyte clones are established.The initial IgM anti D immunoglobulin response is shortlived and sooner replaced by IgG .IgG crosses placenta and destroys fetal RBC leading to fetal anemia resulting in Hydrops, stillbirth or severe anemia and pathological jaundice at birth.

FACTORS INFLUENCING RH ISOIMMUNISATION:

Entry of fetal cells in to maternal circulation occurs mostly during delivery.
Volume of fetal RBC –as small as

0.1ml can trigger immune response.On an average,15 ml of fetal blood enters maternal circulation at term. ABO incompatibility-rapid clearance of ABO incompatible cells ,decreases the exposure of fetal antigens
Antigenicity of the fetal RBC

EVENTS THAT PRECIPITATE FETO-MATERNAL HEMORRHAGE DURING PREGNANCY:

Pregnancy complications-Abruption, Threatened abortion, Ectopic pregnancy, closed abdominal injury Invasive antenatal procedures- Chorion villous sampling, amniocentesis, cordocentesis Obstetric procedure- External cephalic version
Post natal: Manual removal of placenta

FETO-MATERNAL HEMORRHAGE DETECTION DURING PREGNANCY:

Kleihauer-Betke test-using acid elution technique,fetal RBC are noted per 50 low power field and amount of fetomaternalhaemorrhage is calculated .

DETECTION OF FETAL INVOLVEMENT

Genotyping of fetus can be done by non invasive testing using maternal plasma Serial amniocentesis to detect fetal anemia is no longer necessary. Fetal anemia can be detected using Doppler ultrasonography of Middle Cerebral Artery. Ultrasound detection of fetal hydrops –pleural and pericardial effusion,scalp edema-is late sign of fetal anemia.Other signs include hepatoslepnomegaly, polyamnios, large placenta, increase in umbilical and intra hepatic portal vein diameter.

IMMUNOPROPHYLAXIS

Antenatal and post natal administration of anti-D immunoglobulin helps prevent Rh D alloimmunisation. Anti-D should be given after sensitizing events before delivery and after abortions.

Atleast 500IU of Anti D should be given to non sensitised Rh negative women at 28 and 34 wks of pregnancy.
After delivery, irrespective of anti D given in antenatal period, post natal prophylaxis must be given (300mcg) and screening test should be done in case of large fetomaternal bleed to give additional dose of antiD.

1500IU= 300mcg of Anti D immunoglobulin.

MANAGEMENT

Blood grouping and typing of the mother is routinely done. Rh negative mother,the spouse's blood group is also checked.If Rh negative,nofuther testing required during pregnancy.

When partner is Rh positive,Indirect Coombs test is done in each trimester to detect maternal anti-Dantibodies.

When ICT is 1:16significant titre, needs tertiary level care.

A detailed history of previous affected pregnancies should be obtained.

The paternal genotype to be assessed.Ifheterozygous,there is 50% chance that fetus is Rh positive .The fetal genotype is assessed non invasively using maternal plasma.

Doppler velocimetry of middle cerebral artery correlates well with increasing level of bilirubin in amniotic fluid. Pregnancies at risk should be monitored on weekly basis for Peak Systolic values of MCA . Intervention is needed when MCA PSV is 1.5 multiples of median threshold.

Traditionally, fetal hemolysis was indirectly assessed by serial amniocentesis for spectral analysis of amniotic fluid at 450nm described by liley. A chart was plotted and further management based on the zone in which the test value falls.

If monitoring of MCA indicates anemia, fetal blood sampling and intra uterine transfusion are indicated.

TIMING OF DELIVERY

With careful monitoring, delivery should be anticipated at 37-38 wks pregnancy. Antenatal steroids for lung maturity if preterm delivery is anticipated.

If complications occur during Intra Uterine Transfusion at 32 wks, immediate delivery should be considered.

Mode of delivery is dependent on obstetric grounds.

At delivery,cord blood is collected for analysis of Hb, PCV, bilirubin and Direct Coombs test.

OUTCOME

Reversal of hydrops as a result of IUT is associated with improved perinatal outcome.

If infant is overtly anemic, exchange transfusion is carried out. Early anemia is a result of passively acquired maternal antibodies causing hemolysis. Late anemia occurs due to several intra uterine transfusions resulting in suppressed erythropoiesis despite normal erythropoietin values.this can be treated with top up transfusions or recombinant erythropoietin. 90% of cases has normal neurodevelopmental outcome .Sensorineural deafness is more common in infants affected by hemolytic disease of new born. Prolonged exposure of developing 8th cranial nerve to toxic levels of bilirubin results in hearing loss.

Licensed to post without prepayment TN/PMG/(CCR)/WPP.500/ 2017 - 2019
Registered News Paper Posted at Egmore R.MS. Patirika Channel.
Postal Registration No. TN/CH/(c)/59/2017-19
Publication on : Final week of every month Posted on : 29.01.2018
RNI NUMBER : TNENG/2004/14197
RDISNo. 6342/98

BRS HOSPITAL

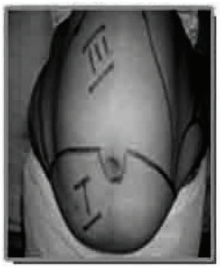
Multi speciality centre

(ISO 9001-2015 CERTIFIED)

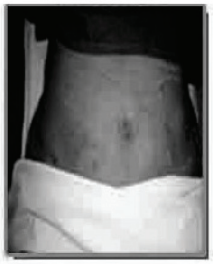
- Intensive Care Unit with facilities to ventilate patients (Both Adult & Pediatric Patients).
- 5 Operating theaters with Laparoscopic facility
- Round the clock Lab and X-ray facilities
- 24-hrs casualty services
- Emergency & Trauma
- Neonatology
- Gynecology
- ENT - Otolaryngology & Head & Neck Surgery
  MARC- Intertility Clinic
- Plastic & Reconstructive Surgery
- Arthroscopy - Centre for SPORTS INJURIES
- Cancer Surgery
- Leucoderma (Vitiligo) -
- MELANOCYTE TRANSPLANTATION
- Hand Injury Unity
- Health Checkup Schemes -
- Master Health Check - Men & Women.

Department of Cosmetic Surgery

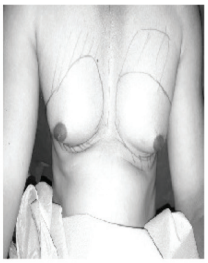
LIPOSUCTION PRE OP



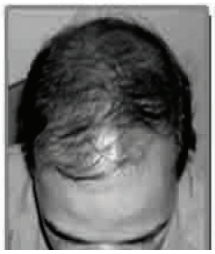
LIPOSUCTION POST OP



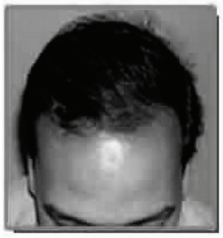
GYNAECOMASTIA PRE OP



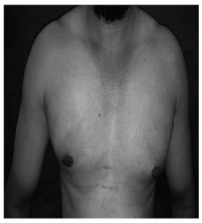
HAIR TRANSPLANT PRE OP



HAIR TRANSPLANT POST OP



GYNAECOMASTIA POST OP



Owned and Published by Dr. Madhusudhan 28, Cathedral Garden Road,Chennai - 34.
Printed by S. Baktha at Dhevi Suganth Printers 52, Jani Batcha Lane, Royapettah, Chennai -14.