Clinical Pathophysiology of Pregnancy

1. Medical disorders in Pregnancy | Effect of Music Therapy in women with Pregnancy Induced Hypertension

Objective:
Aim of Study: To determine the effect of music therapy on stress level and physiological indicators on women with PIH.

Materials and Methods:
Method of study: The study was conducted at Medical College Calicut, Kerala in 2006 in women with PIH in the gestational age of 30-36 weeks. The sample considered of 60 women in the study group and 30 in the control group. The study group was subjected to music therapy for 7 days in the morning between 5.30 am and 9 am for 30 minutes with morning ragas and in the evening between 5 pm and 9 pm with evening ragas.

Results:
Main Observations:
1. The mean stress level was significantly lower in study group than control group after music therapy (p<0.05).
2. The mean blood pressure was significantly lower in study group after music therapy (p<0.05).
3. Only 50% in the study group had proteinuria where as 83% had proteinuria in the control group.
4. 100% in the study group had sound sleep after music therapy where as 67% in the control group had sleep disturbances.

Discussions and Conclusion:
1. The study shows that there is significant difference in the physiological indicators like reduction in the BP, proteinuria, stress level and sleep disturbances among women with PIH after music therapy.
2. Music therapy a simple, cost-effective and non-invasive way of reducing stress, anxiety and depression in women high risk pregnancy and hope this study will encourage healthcare professionals to consider this as valuable additions to any comprehensive antepartum program.

2. Medical disorders in Pregnancy | Maternal and fetal outcome in HINI infected pregnancies

Objective:
Background: In HINI infected pregnant women the morbidity and mortality are higher than other adults and the complications are spontaneous abortion, preterm labour, fetal distress, severe pneumonia, ARDS, and maternal death. Objective of study: To study the maternal and perinatal outcome in HINI infected Pregnancies.

Materials and Methods:
Method of study: Study conducted at IMCH, Medical College, Calicut, Kerala. Prospective case series study from 1-04-2009 to 30-06-2010 among pregnant women infected with HINI. They were evaluated by throat swab and the conditions warranted swab were fever, cough, rhinitis, throat pain, respiratory distress, vomiting and loose stools.

Results:
Out of the 38598 pregnant women, 63 were suspicious and 19 were HINI infected confirmed by throat swab. They were treated with Tamiflu 75 mg (Osteltamivir) BD x 5days, antibiotics and antipyretics. 5 patients are antenatal continuing pregnancy (26%), 11 patients delivered vaginally (58%), and 3 delivered by LSCS (16%). There was one case of obstetric hysterectomy for placenta increta. There was no other maternal complication Perinatal complication: There was one IUD FSB due to cord complication, not related to HINI infection

Discussions and Conclusion:
Conclusion
Even though the reported maternal and perinatal outcome was poor in HINI infected mothers, in the present study the outcome was good. Suggestions
Prevention of the pandemic HINI infection can be achieved by health education, high index of suspicion and early therapy with Tamiflu within 48 hours


Objective:
FXIII deficiency is a rare bleeding disorder that can present with umbilical bleeding during the neonatal period, delayed soft tissue bruising, mucosal bleeding, life-threatening intracranial haemorrhage, poor wound healing and recurrent miscarriages. Factor XIII, the last enzyme in the clotting cascade, converts the loose fibrin polymer into an organised cross-linked structure with increased tensile strength and makes it relatively resistant to fibrinolysis. Inherited factor XIII deficiency is inherited as an autosomal recessive disorder. Our aim is to prove that substitution therapy with fresh frozen plasma in women with factor XIII deficiency increases the chance of a successful outcome of pregnancy.

Materials and Methods:
We report the obstetrical outcome of three pregnancies in two siblings with factor XIII deficiency.

Results:
The younger one, a 22-year-old primigravida, presented at 6 weeks amenorrhoea with a complaint of bleeding per vagina. She was a diagnosed case of factor XIII deficiency with all the classic signs and symptoms since first day of birth. Her coagulation profile and all other routine blood investigations were normal on admission. Sonography revealed a large subchorionic hematoma. Inspite of the two additional bouts of bleed at 12 weeks and 20 weeks, she reached term and had an uneventful vaginal delivery. She was treated aggressively with fresh frozen plasma during pregnancy and labour. The elder sibling did not have any specific treatment during her pregnancy and both ended in early abortions.

Discussions and Conclusion:
The outcome in these two women demonstrates the need for substitution therapy in women with factor XIII deficiency from early pregnancy itself so as to increase their chances of having a successful obstetrical outcome.
4. Medical disorders in Pregnancy

| Recent trends in the epidemiology of HIV in Antenatal women at a tertiary care center |

Objective:
To study the seroprevalance of HIV among pregnant women.

Materials and Methods:
Data of 23,191 women attending the antenatal clinic from March 2006 to Feb 2009 was analyzed. The pregnant women attending the antenatal clinic for consultation were counseled for HIV testing, informed consent was obtained.

Results:
From March 2006 - February 2009, 23,549 deliveries were conducted at our institute. 23,191 of the antenatal patients attending our out-patient departments, were counseled for HIV testing. 14,694 patients underwent testing. The seroprevalance of HIV from Mar 2006 - Feb 2009 was 0.31.

Discussions and Conclusion:
Acceptability of the test after patient counseling was 63.36% and 95.3% women attended post test counseling and collected reports. Conclusion: There is no definite treatment for HIV/AIDS, however, the pandemic can be controlled by education and behavioral modification.

5. Medical disorders in Pregnancy

| two rare cases of tuberculosis during pregnancy with successful outcome |

Objective:
tuberculosis during pregnancy can present in a very severe manner. two cases presented and was treated and followed till delivery.

Materials and Methods:
the first case presented with cough cold and inability to talk. there was complete absence of voice. she had a pregnancy of sixteen weeks at the time of presentation. after a week she started having severe haemoptysis. she was diagnosed as a case of tuberculosis. the second case was of a lady with twin pregnancy with features of intracranial space occupying lesion. she had to undergo craniotomy and was treated as a case of tuberculosis. both delivered successfully.

Results:
both underwent delivery and both mother and babies had successful outcome.

Discussions and Conclusion:
these two were rare cases of tuberculosis with pregnancy with turbulent antenatal period. both underwent antitubercular therapy and had a successful delivery.
6. Medical disorders in Pregnancy

ROLE OF OGT-2 HOURS AFTER 75 GMS GLUCOSE IN DETECTION OF GESTATIONAL DIABETES MELLITUS (GDM).

Objective:

1.) To screen all antenatal women seeking antenatal care, to detect cases of GDM. 2.) To diagnose GDM cases early in pregnancy and to treat early. 3.) Early treatment of GDM cases so as to decrease maternal as well as fetal complications during pregnancy.

Materials and Methods:

Material: sample size: 1367 pregnant women attending antenatal OPD. Method: The single step 75 g glucose test which is both for screening and diagnosis. Done by GOD-POD method. Patient need not be fasting.

Results:

Interpretation: If 2 Hours post glucose PBSL More than 140 mg/dl: GDM. It is diagnostic of GDM. If positive perform HbA1c. And USG anomaly scan to rule out anomalies like Macrosomia.

Discussions and Conclusion:

By this simple one step test, we can detect the GDM cases early. And early treatment will improve the maternal and foetal outcome. We have studied 1367 case in institute and detected and successfully treated 13 cases of GDM. So OGT 2 hours after 75gms glucose can be used as an antenatal screening test for GDM.

7. Medical disorders in Pregnancy

Anti-oxidants in PIH: A boon to obstetricians

Objective:

To study the effect of anti-oxidants in PIH.

Materials and Methods:

METHOD: Two groups were made. 250 nullipara woman between 21 - 30 years having PIH (showing BP 140/90 on two antenatal visits) were given anti-hypertensive (tab Methyl dopa 250mg BD) initially and 250 were given anti-hypertensive (tab Methyl dopa 250mg BD) with anti-oxidants (vit.C 1000mg per day and vit.E 400IU). Cases were followed biweekly in second trimester and weekly in third trimester. Effects on pregnancy studied in terms of pre-eclampsia, eclampsia, preterm, IUGR and IUD. Chi square test applied.

Results:

Results: Out of 250 cases given only anti-hypertensive (group A), 8 developed eclampsia, 48 developed pre-eclampsia, 63 were preterm, 38 IUGR, 12 IUD. Out of 250 cases given both anti-hypertensives and
anti-oxidants (group B) only 1 developed eclampsia (p<0.001; HS), 19 developed pre-eclampsia (p<0.05; S), 34 preterm (p<0.001; HS), 16 IUGR (p<0.001; HS), 3 IUD (p<0.05; S).

Discussions and Conclusion:

Conclusion: Antioxidants in pregnancy reduces risk of pre-eclampsia and eclampsia to a great extent and also decreases the incidence of preterm, IUGR, IUD.

8. Medical disorders in Pregnancy|effects of early onset PIH on clinical course of pregnancy and perinatal outcome

Objective:

1. Identification of causative factor for early onset of pre-eclampsia.
2. To identify the consequences of early onset PIH in respect of:
   A) Maternal health
   B) Fetal health
3. To study perinatal outcome in these patients.

Materials and Methods:

MATERIAL

Number of cases to be studied = 50
Period of study = from May 2007 to May 2009
50 cases admitted to our hospital between 20 weeks to 32 weeks of gestation with PIH will be selected for the study.

METHODS

1. After obtaining a detail history, a thorough examination were carried out.
2. Laboratory investigations were done.
3. The cases were treated as per the treatment protocol of pre-eclampsia.
4. The investigations were repeated as and when required.
5. Any complication developed during pregnancy-intranatal/postnatal due to early onset of pre-eclampsia will be recorded and were managed accordingly.
6. Perinatal outcome in respect of:
   - Still birth
   - Live birth
   - Weight of the babies and APGAR score were studied.

Results:

Incidence - 2.9% of all antenatal cases and 20% of all preeclampsia diagnosed Perinatal mortality in present study was 63/1000 live births.

Discussions and Conclusion:

The patients who developed pre-eclampsia early in pregnancy have a high incidence of maternal morbidity due to development of complications and increased incidence of perinatal morbidity and mortality as well, due to development of growth restriction and prematurity. Gestational age at the onset of disease is indicative of the outcome, the earlier the presentation of pre-eclampsia, the greater the likelihood of complications and perinatal outcome. On the contrary, pre-eclampsia developing after 34 weeks of gestation results in uniformly good perinatal outcome. Conservative management for severe pre-eclampsia developing before 28 weeks of gestation is not adequate, maternal morbidity is severe, perinatal survival is less than 10%, therefore these patients should be delivered to reduce maternal risk and avoid severe maternal morbidity and prolonged hospitalization. Hypertension during pregnancy is a serious complication with grave perinatal outcome especially when it begins early. Placental insufficiency is the commonest complication and very little can be done after the condition is diagnosed. Preventive measures if at all should be undertaken way before conception. Maternal complications especially eclampsia can be successfully avoided with good antenatal vigilance and surveillance.
9. Medical disorders in Pregnancy

Increased oxidative stress, altered fatty acid profile, inadequate antioxidant - causative factors for IUGR in Preeclampsia

Objective:

1. To study the oxidative stress and antioxidant levels in normotensive mothers, pre eclampsia and newborns.
2. To study the effect of oxidative stress and antioxidants on foetal weight in pre eclampsia.

Materials and Methods:

A total of 112 pregnant women (60 Preclamptic and 55 with Normotenisve pregnancy) were recruited after 35 weeks of gestation from the Antenatal clinic. To measure the levels of 1. Lipid peroxides 2. Plasma Vitamin E 3. Plasma Vitamin C 4. Fatty Acid estimation. These factors were studied in healthy normotensive, Preclampsia mothers and newborns.

Results:

Biochemical changes in the newborns are practically the same as in their mothers. Increased n6:n3 ratio in plasma and RBC of the cord denote increased Lipid peroxidation leading to disturbed cell membrane function and IUGR.

Discussions and Conclusion:

Increased oxidative stress and decreased antioxidant not only causes Preeclampsia but also hampers foetal growth leading to IUGR.

10. Medical disorders in Pregnancy

PHEOCHROMOCYTOMA CRISIS INDUCED BY ANTENATAL GLUCOCORTICOIDs IN UNDIAGNOSED MEN II A - A CASE REPORT

Objective:

Introduction: Pheochromocytoma is not common

Materials and Methods:

Case report: A 21 yrs young booked pregnant mother Gravida 2 Abortion 1 (previous spontaneous abortion at 12 wks) admitted at Obstetrics

Results:

Treatment: The patient was referred to higher centre for definitive management. She was diagnosed as a case of MEN II A at CMC Vellore, where she had undergone Laparoscopic Left Adrenalectomy initially.
11. Medical disorders in Pregnancy | STUDY OF POLYUNSATURATED FATTY ACID (PUFA) CONCENTRATION IN MATERNAL PLASMA AND BREAST MILK OF PRE-ECAMPTIC MOTHERS

Objective:
Determine

Materials and Methods:
Study carried out in Bharati Hospital, Pune between JAN 2007 - DEC 2008. 115 Term mothers recruited for the study, 60-pre-eclamptic

Results:
In Pre-eclamptic group, plasma total omega-3 fatty acid and particularly DHA (Docosahexaenoic acid) was significantly lower compared to control group (p = 0.001) (P < 0.05). In the study group breast milk DHA concentration was significantly higher as compared to normotensive group (P = 0.01)

Discussions and Conclusion:

Nutritional

12. Medical disorders in Pregnancy | ROLE OF HOMOCYSTEINE IN PRE-ECLAMPSIA

Objective:
The present study examines whether the associations of folic acid, vitamin B12 and omega-3 fatty acids and increased homocysteine which are implicated in the pathology of pre-eclampsia.

Materials and Methods:
49 pre-eclamptic and 57 normotensive women were recruited at Bharati hospital, Pune, India. Plasma folate, vitamin B12, homocysteine and erythrocyte omega-3 and omega-6 fatty acids were analyzed.

Results:
Homocysteine concentrations were higher in pre-eclamptic than in normotensive women (14.28 ± 7.31 Vs. 11.03 ± 4.38 µmoles/L, p < 0.01) despite similar levels of folic acid and vitamin B12. In the pre-eclamptic group, plasma folate levels were positively associated with erythrocyte omega-6 fatty acids (p < 0.05) while erythrocyte docosahexaenoic acid levels were negatively associated with plasma homocysteine levels (p < 0.01).

Discussions and Conclusion:
In normal pregnancy, homocysteine levels are very less as it is converted into methionine and utilised for fetal growth. Proper concentrations of LCPUFA in cell membrane helps in methylation reactions. Our
study provides evidence for the associations of altered omega-3 fatty acids especially docosahexaenoic acid, metabolism and resultant increased homocysteine concentrations in pre-eclampsia.

**13. Medical disorders in Pregnancy|neuroimaging in eclampsia**

Objective:

Pre-eclampsia is a multi-system disorder affecting two percent of pregnancies. It is still the one of the most common cause of Maternal death in our country even after starting of RCH and NRHM programmes. There are various neurological manifestations of severe Pre-eclampsia out of which most dreaded ones are seizures.

Materials and Methods:

An ongoing study in Gauhati Medical College on eclampsia and severe PIH admitted in The hospital was taken for study and CT scan is done.

Results:

The neuro-imaging shows changes mostly in the occipital lobes and also in frontal.

Discussions and Conclusion:

Our study also confirms the study of different authors.

**14. Medical disorders in Pregnancy|OBSERVATIONAL STUDY OF TSH LEVELS IN PREGNANCY**

Objective:

To find out average TSH and compare it with standardized values. To find percentage of higher and lower TSH. Analyse TSH levels to T3, T4 levels. Fetal outcome with abnormal TSH.

Materials and Methods:

Randomized selection in 3 groups of 200 patients attending ANC. Group 1 -

Results:

The mean of average TSH was 2.23μIU/L.

Discussions and Conclusion:

Average TSH value is found less than standard cutoff value 2.5μIU/L. 70.5% had normal TSH and abnormal T3, T4. Only TSH is NOT the indicator of the abnormal Thyroid function in pregnancy.
15. Medical disorders in Pregnancy|Let's treat PostPartum Anaemia

Objective:

OBJECTIVES : 1) To evaluate the efficacy, safety and compliance of parenteral iron sucrose therapy in post partum anemia. 2) To compare the levels of Haematocrit, reticulocyte count, serum iron before and after the intravenous iron sucrose therapy.

Materials and Methods:

METHODS : A prospective study of 100 postpartum cases with Haemoglobin 7 - 9 gm% at D.Y.P.H. from May-09 to June-10 was carried out. Daily slow infusion of 200 mg iron sucrose diluted in 100ml NS was infused over 15minutes for 5 days. Patient's Hb(by acid hematin), PCV, CBC, S.iron, PBS was repeated at the end of 1st and 6th week after the start of therapy.

Results:

RESULTS : The mean rise of Hb was at 1.3gm% and 3.8gm% at the end of 1st and 6th week of therapy respectively.

Discussions and Conclusion:

CONCLUSION : Intravenous iron sucrose therapy improves the hemoglobin remarkably in short span of time with good patient compliance and without any adverse effects.

16. Medical disorders in Pregnancy|A mother who's heart stopped without seeing her child

Objective:

To highlight the remote causes of maternal mortality.

Materials and Methods:

Case study

Results:

Peripartum cardiomyopathy leading to maternal mortality.

Discussions and Conclusion:

19 year old short statured primigravida with full term pregnancy with CPD was admitted in early latent labour and was taken up for emergency LSCS under general anesthesis. Intra op period was uneventful. Post operative after extubation, patient became roudy, was suspected as emergent delirium and was shifted to ICU. Next day while shifting her to MRI, suddenly she had hypotension, ECG showed II degree AV block, was suspected as a case of ? sepsis with DIC ? septic myocarditis ? septic encepholapathy post operative day 2 she developed tachycardia, tachyapnea and was not maintaining oxygen saturation and was intubated a 2Decho done showed evidence of dilated LA grade II MR, and sever LV dysfunction. post operative day 3 patient had respitatory arrest and spite of all rescutative measures, she could not be revived. she was diagnosed as a case of ? PERIPARTUM CARDIOMYOPATHY ? MYOCARDITIS
17. Medical disorders in Pregnancy | ONE YEAR DESCRIPTIVE STUDY OF URINARY CALCIUM

Objective:
To assess the urinary calcium: creatinine ratio at 16-20 weeks of pregnancy as a useful screening test in subsequent development of preeclampsia.

Materials and Methods:
Primigravidas registered between 16-20 weeks of pregnancy at BIIMS Beqgaum were taken for the study and single early morning fasting midstream urine sample was collected for estimation of calcium: creatinine ratio (CCR) at 16-20 weeks of gestation. Then regular follow-up of cases was done i.e. once every 4 weeks till 28 weeks, once every fortnight till 34 weeks and then every week till delivery and symptoms and signs of preeclampsia were looked for during each visit.

Results:
Out of 100 patients who underwent the test at 16-20 weeks, 9 were lost to follow up. Clinical outcome of 91 primigravidas who underwent the predictive test, 11 cases developed preeclampsia and 80 cases did not develop preeclampsia. Urinary CCR of 0.04 was taken the cut off value. Urinary CCR was less than 0.04 in 12 cases and >/= in 79 cases.

Discussions and Conclusion:
Similar studies had been done by Suzuki et al. and provided sensitivity of 70% and specificity of 94% with PPV of 58% and NPV of 95% for this study. Results of various authors of similar studies were not consistent either because of variation in composition of population, or variation in period of gestation or variation in timing of samples collected. Majority of the patients who developed preeclampsia were found to have CCR <0.04.

18. Medical disorders in Pregnancy | RECURRENT PREGNANCY LOSS: A SYSTEMATIC REVIEW OF THERAPEUTIC INTERVENTIONS.

Objective:
1) To study the effects of therapeutic interventions given to improve the outcome in women with RPL.
2) To study the obstetric course of women with history of RPL treated with these therapeutic interventions.

Materials and Methods:
Study conducted on 36 pre-conceptional and 44 post-conceptional patients with history of RPL attending our OPD at GSM Hospital Bangalore between Jan 2006-may 2007. Routine clinical examination with relevant investigations like USG, screening for APAS, OGTT in PCOD patients, hysteroscopy in suspected anatomic abnormalities in the preconceptional group was done. Of these 44.4% patients had PCOS with hyperinsulinemia, 11.1% had abnormal hysteroscopic findings for which hysteroscopic septoplasty, synechiotomy and resection of septum was done. 5.6% patients were detected with APAS. All 36 patients in the pre-conceptional group and 44 antenatal patients were treated alike during pregnancy irrespective of the causes of their RPL and were given: 1.30 patients received only Low dose aspirin (75 mg /day) till 35 weeks of pregnancy. 76.6% had live births, 20% had abortions and 3.3% had IUD.
patients were given aspirin (LDA) Low molecular weight Heparin (LMWH), 73% patients had live births and 21% had abortions. 2. 15 patients were given aspirin (LDA) Low molecular weight Heparin (LMWH) prednisone and 100% live births. 3. 16 patients received LDA LMWH and paternal leukocyte fraction steroid. They had 87% live birth and 12.5% had abortions. Pregnancy loss rates in our study were as follows: a. 19.4% with previous 2 abortions b. 8% with previous 3 abortions c. 10% with previous 4 abortions. With all the above interventions out of total 80 patients, the overall pregnancy rate was 82.5%.

Results

Discussions and Conclusion:

In effect the treatment of RPL in majority of the cases is rather empirical hypothetical and the number of cases we have treated in these two years is not large enough to give final conclusion. But we did find LDA LMWH PREDNISONE produced best results.