

## To study the association of antiphospholipid antibody syndrome with PIH and IUGR

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### ABSTRACT

Antiphospholipid antibodies have been linked to Obstetric complications from many years. If a lady presents with recurrent pregnancy loss, severe PIH in early pregnancy, IUGR one should suspect of this syndrome. Pre-pregnancy counselling and treatment is ideal for such cases. Starting the treatment timely definitely improves the outcome. Low dose Aspirin and Heparin is the treatment of choice.

**Key words:** Antiphospholipid antibody syndrome, PIH and IUGR.

### INTRODUCTION

The present study is undertaken to find the association of Antiphospholipid antibody in cases of Pregnancy Induced Hypertension and Intra Uterine Growth Retardation with maternal outcome.

Antiphospholipid Antibody Syndrome (APAS) is a disease entity with a noninflammatory thrombotic occlusion of small or large vessels causing recurrent thrombosis and/or fetal loss.

High titers of IgG & IgM anticardiolipin antibodies are associated with an increased frequency of fetal wastage. Raised titers are also found in arterial and venous thrombosis, thrombocytopenia, livedo reticularis, primary pulmonary hypertension and neurologic disorders. These antibodies are also related with adverse obstetric outcome such as PIH, IUGR, placental abruption, missed abortion, recurrent stillbirth, choria gravidarum, and neonatal thrombosis.

### Clinically important Antiphospholipid antibodies are

- Anticardiolipin antibodies- IgG, IgM
- Lupus anticoagulant

Biologically false positive test for Syphilis (BFP-STS)

### MATERIAL AND METHODS

#### Work place

Dept. of Obst. & Gynaec and Dept. of Biochemistry at S.A.I.M.S., Indore.

#### Selection of cases

100 cases were studied.

#### Essential criteria for case selection

- PIH of early onset (B.P. of > 140/90 mmHg after 20 weeks of gestation but before 32 weeks) with or without proteinuria (preeclampsia) and oedema.
- Convulsions in hypertensive pregnant women in between 20-32 weeks of gestation without any prior history of seizures.
- Presence of IUGR, especially in cases of associated PIH of early onset.

#### Parameters Estimated

Age, Parity, Blood Pressure, Proteinuria, Oedema, Fundus Examination Platelet count, Renal Function Test, Liver function Tests, along with specific investigation for APAS (Anticardiolipin

antibody, Lupus anticoagulant, BFP- STS )

### Summary

The incidence of severe PIH & IUGR was 60% & 53% in APA positive patients respectively while the same was 24% and 34% in APA negative

patients. The above findings show that APA positive patients had a more severe disease at an early second trimester. Renal function, platelet count and liver functions were deranged in APA positive patients. Thrombocytopenia was seen in 53% of APA positive patients. In urban population more APA

**Table 1: Comparison of APA with Age, Rural and Urban Group and Parity**

|                       |                    | APA positive        | APA negative        |
|-----------------------|--------------------|---------------------|---------------------|
| AGE                   | ≤ 20 YEARS         | 3                   | 28                  |
|                       | 20-25 YEARS        | 9                   | 39                  |
|                       | ≥ 25 YEARS         | 3                   | 18                  |
| Maximum Percentage    |                    | 60 % in 20-25 yrs   | 46 % in 20-25 yrs   |
| Rural and Urban Group | Rural              | 5                   | 52                  |
|                       | Urban              | 10                  | 33                  |
| Maximum Percentage    |                    | 67 % in urban group | 61 % in rural group |
| Parity                | G1P0               | 9                   | 42                  |
|                       | G2P1               | 2                   | 25                  |
|                       | ≥ G3P2             | 4                   | 18                  |
|                       | Maximum Percentage | 60% in G1P0         | 49% in G1P0         |

**Table 2: Comparison of APA with Platelet count and Fundus Examination**

|                                |            | APA positive | APA negative |
|--------------------------------|------------|--------------|--------------|
| <b>PLATELET</b><br>(lakh/cumm) | ≤1 lakh    | 8            | 11           |
|                                | 1-1.5 lakh | 4            | 42           |
|                                | ≥1.5 lakh  | 3            | 32           |
| <b>FUNDUS</b>                  | WNL        | 5            | 47           |
|                                | CHANGES    | 10           | 38           |

**Table 3: Comparison of APA with Liver and Renal Function Test**

|     |               |     | APA positive | APA negative |
|-----|---------------|-----|--------------|--------------|
| LFT | SGOT          | +   | 8            | 58           |
|     |               | ++  | 7            | 27           |
|     | SGPT          | +   | 8            | 53           |
|     |               | ++  | 7            | 32           |
|     | LDH           | +   | 10           | 69           |
|     |               | ++  | 5            | 16           |
| RFT | Sr.CREATININE | +   | 9            | 64           |
|     |               | ++  | 6            | 21           |
|     | PROTEINURIA   | Nil | 0            | 34           |
|     |               | +   | 6            | 39           |
|     |               | ++  | 9            | 12           |
|     |               |     |              |              |

**Table 4: Investigations for APAS showing association with severity of PIH**

|              | LAC positive | LAC negative |
|--------------|--------------|--------------|
| Mild PIH     | 2            | 36           |
| Moderate PIH | 4            | 29           |
| Severe PIH   | 9            | 20           |

positive patients' association can be due to increased awareness and affordability.

**More patients were nulliparous between 20-25 years age group.**

Mode of delivery was vaginal in both groups but rate of induction was found higher in APA positive cases. There was increased maternal morbidity and poor fetal outcome in APA positive patients.

|              | ACA ( Ig G ) |          | ACA ( Ig M ) |          |
|--------------|--------------|----------|--------------|----------|
|              | Positive     | Negative | Positive     | Negative |
| Mild PIH     | 2            | 34       | 2            | 38       |
| Moderate PIH | 4            | 30       | 3            | 26       |
| Severe PIH   | 9            | 21       | 10           | 21       |

No association was shown with VDRL in the present study.

**Table 5: Association of ACA Positivity with severity of PIH & IUGR**

| ACA                   | PIH  |          |        | IUGR |          |        |
|-----------------------|------|----------|--------|------|----------|--------|
|                       | Mild | Moderate | Severe | Mild | Moderate | Severe |
| Mild positive         | 2    | -        | -      | 2    | -        | -      |
| Moderate E Positive E | -    | 4        | -      | -    | 5        | -      |
| Severe positive       | -    | -        | 9      | -    | -        | 8      |

**Table 6: Association of APA positivity with gestational age of onset of PIH**

| Gestational Age | APA Positive | APA Negative |
|-----------------|--------------|--------------|
| 20-26 weeks     | 11           | 33           |
| 26-32 weeks     | 4            | 52           |

**Table 7: Maternal complications related with APA**

|                   | APA Positive | APA Negative |
|-------------------|--------------|--------------|
| APH ( Abruption ) | 4            | 13           |
| PPH               | 2            | 14           |
| ANAEMIA           | 9            | 58           |

**Table 8: Fetal outcome related with APA positivity**

|               | APA Positive | APA Negative | Baby weight | APA Positive | APA Negative |
|---------------|--------------|--------------|-------------|--------------|--------------|
| Mild IUGR     | 2            | 35           | ≤1 kg       | 5            | 22           |
| Moderate IUGR | 5            | 21           | 1-1.5 kg    | 7            | 16           |
| Severe IUGR   | 8            | 29           | ≥1.5 kg     | 3            | 47           |

### CONCLUSION

Antiphospholipid antibodies have been linked to Obstetric complications from many years. If a lady presents with recurrent pregnancy loss, severe PIH in early pregnancy, IUGR one should suspect of this syndrome. Pre-pregnancy counselling and treatment is ideal for such cases. Starting the treatment timely definitely improves the outcome. Low dose Aspirin and Heparin is the treatment of choice.

Now a days low molecular weight heparin is new choice of therapy for Antiphospholipid Antibody Syndrome in pregnancy. Last but not the least patient should be counselled regarding the risk of future pregnancies and advised to practice contraception or sterilization whichever suits the patient. She should be stressed to follow "One Family Norm".

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