

## Unusual Accompaniments of Pregnancy Induced Hypertension

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### Summary

PIH is still common and still dangerous. Severe preeclampsia is a major cause of maternal mortality and morbidity world wide. We come across usual complications like eclampsia and Abruption placenta, but in addition to this there are certain accompaniments of PIH. Incidence of PIH in our institution is 11.7% and incidence of various complications were, ascites – 2.8%, HELLP syndrome 1.2%, pleural effusion – 0.8% and cortical venous thrombosis – 2.8%. With prompt treatment, a patient who presented with HELLP syndrome following caesarean section survived.

Some studies support the concept that low dose aspirin therapy is not the answer for prevention of PIH in all the women. Our case of severe PIH with silent duodenal perforation posed a lot of diagnostic problems. Even though there is a wide use of aspirin prophylaxis one such case is a caution to all obstetricians.

Severe PIH should include liver function test as a component of investigation protocol. In all cases of severe PIH, in addition to obstetric scan, there should be scan to rule out ascites and other effusions as they are considered as bad prognostic factors.

Pregnancy induced hypertension with its life threatening complications is still common. Severe preeclampsia is a major cause of maternal morbidity and mortality world wide. In India it ranks second among the various causes of maternal mortality, being reported as 4.5/1000 live births in Karnataka.

All obstetricians who are adept in managing the usual complications like eclampsia and abruption placenta should also become more alert and become proficient in the management of certain unusual complications viz., HELLP syndrome, ascites, pleural effusion and cortical venous thrombosis.

A five year retrospective study was performed at the M.S. Ramaiah Medical Teaching Hospital Bangalore from 1988 to 1993 and the incidence of the various complications were as follows – ascites 2.8%,

HELLP syndrome 1.2%, pleural effusion 0.8%, and cortical venous thrombosis 2.8% /1000.

**HELLP Syndrome:** (Hemolysis, elevated liver enzyme and low platelet count) HELLP syndrome coined by Louis Weinstein of the university of Arizona is a rare and serious manifestation of severe preeclampsia. The syndrome comprises clinical and pathological manifestations resulting from an insult that leads to microvascular endothelial damage and intravascular platelet activation. The hallmark of HELLP syndrome is microangiopathic hemolytic anemia, resulting from the passage of red blood cells through small blood vessels with damaged intima and fibrin mesh deposits. The hepatic lesions consist of hepatocellular necrosis and deposits of microthrombin and fibrinogen in the sinusoids. Common signs are hypertension, right upper quadrant tenderness, weight gain and oedema.

Three cases of severe P.I.H. presented with haematuria, and right upper quadrant abdominal pain associated with severe PHH. Icterus was clinically evident on the second day. Thrombocytopenia and elevated liver enzymes were present in all the 3 cases. Despite prompt termination of pregnancy, fresh frozen plasma and packed cell transfusion only one patient could be salvaged. But 2 patients died of hepatic encephalopathy. Thus the maternal mortality and foetal mortality in HHELLP syndrome were 66.6%. Two foetuses could not be salvaged since they were extremely preterm weighing < 1000 grms. One patient underwent caesarean section and the other 2 delivered per vaginum. The patient who had undergone caesarean section survived as also her baby. The two patients who delivered vaginally died of hepatic encephalopathy and the two fetuses could not be salvaged since they were extremely preterm weighing < 1000 grms.

The high foetal and maternal mortality could be attributed to the late stage at which the patients presented to our institution with severe hepatic damage. All three patients were unbooked.

The notion that thrombocytopenia is a chronic but slowly developing problem in preeclampsia as reported by Chesley has been widely accepted. Hence appropriate antenatal care could detect these complications in severe P.I.H. and avert the catastrophe.

The function of several organs e.g. the Kidneys and the liver is disturbed in severe preeclampsia. In extreme cases, even pulmonary edema and heart failure have been observed. Despite this theoretical basis for the accumulation of transudates in the pleural space in severe preeclampsia, such cases have not been published.

Ten percent of our patients with severe P.I.H. had ascites and 60% of them had hydrothorax; two thirds of the patients had right sided hydrothorax while one third had it on the left side. One patient had massive accumulation of pleural fluid with respiratory distress necessitating pleural tapping. The fluid was confirmed to be a transudate and complete regression of hydrothorax was observed within a week after delivery.

Cardiac, renal, liver and pancreatic diseases were excluded in the patients. The maternal and perinatal mortality were not related to the presence of ascites or hydrothorax and were dependent on other factors like foetal maturity, maternal condition etc.

Duodenal perforation was associated with low dose aspirin therapy.

CI ASP study and other large trial have not reported any serious maternal or foetal complications associated with low dose aspirin therapy.

In our institution we encountered one case of perforation of duodenal ulcer accounting for an incidence of 0.5% among all preeclampsia cases. She received aspirin 75mg daily for a period of 10 weeks before hospitalisation at the 34 week of gestation. Even though uncommon, this complication can pose a great dilemma in diagnosis and management when encountered.

### Cortical vein thrombosis

The signs and symptoms of maternal cortical vein thrombosis are caused by thrombotic obstruction of the superior longitudinal sinus or of the cortical veins which produces impaired cerebrospinal fluid absorption and increased intracranial pressure with subsequent regional cerebral infarction and may produce focal neurological signs or seizure.

In Europe and North America, the incidence of cerebral venous thrombosis related to pregnancy is estimated to be no more than 1/10,000. In India however, where thrombosis of intracranial cerebral and dural sinuses is the most common cause of stroke in young women, it accounts for 25% of maternal deaths and has an incidence of 4.5/1000 obstetric admission (Bansal et al, 1980).

In our hospital the incidence of cortical venous thrombosis associated with pregnancy induced hypertension is 2.8 per 1000 Obstetric admissions.

### Conclusion

Thus every patient with preeclampsia should be vigilantly monitored for the development of thrombocytopenia, ascites, pleural effusion and cortical vein thrombosis in order to detect and manage them sufficiently early to improve the maternal and perinatal outcome.

### References

1. Bansal BI., Gupta RR, Prakash C., Japanese Heart Journal 21:171; 1980.