Original Article

Co-relation of Pregnancy induced Hypertension with Placental Abruption and Effect of Antihypertensive Therapy

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ABSTRACT

Objective: To co-relate clinically Pregnancy Induced Hypertension (PIH) with abruption and to see the effect of antihypertensive therapy.

Methods: Fifty pregnant women with PIH and 50 normotensive pregnant women with singleton pregnancy at gestational age more than 20 weeks were studied.

Clinical evaluation consisted of a comprehensive history and antenatal record. All deliveries were planned in Holy Family Hospital (HFH).

Results: Out of 50 cases, abruption was seen in 4(8%) patients who did not receive treatment while no abruption was seen in treated group.
Conclusions: There is a significant clinical correlation between PIH and abruptio placentae. By controlling BP one can overcome the abruption and its consequences to some extent. (Rawal Med J 2005;30:59-61).

Key words: Placenta abruptio, pregnancy induced hypertension, antepartum hemorrhage.

INTRODUCTION

Antepartum haemorrhage (APH) complicates 2-5 % of all pregnancies and it is one of the main causes of maternal death.1,2 The causes of APH are placenta previa (31%), abruptio placenta (22%), and unclassified bleeding (47%).2 In abruptio placentae there is a retro placental clot or tense tender uterus, a shocked patient, and a dead or dying fetus in the presence of APH.3 The etiology of placental abruption remains an enigma,3,4 and there is a long list of conditions associated with it.5 It has been uncertain whether the hypertension is a cause or a consequence of abruption,5,6 it is hypothesized that there is a significant relationship between PIH and abruption.7 PIH occurs in around 16-24% of first pregnancies and 12-15% of subsequent pregnancies.8 PIH was once called toxemia of pregnancy, however, no toxin had ever been found and the term toxemia is no longer used.9 It is defined as “hypertension developing after 20 weeks of gestation during labor or puerperium in a previously normotensive woman.”8 There needs to be one measurement of diastolic BP of 110 mmHg or more or two consecutive measurements of diastolic BP of 90 mmHg or greater four hours or more apart at rest after 20 weeks of
gestation to qualify for the definition. The aim of our study was to correlate clinically PIH with abruption and to see the effect of antihypertensive therapy.

**PATIENTS AND METHODS**

This Case control study was conducted over a period of one year from 1st June 2001 to 31st May 2002 in obstetrics and gynecology department of Holy Family Hospital (HFH), Rawalpindi. Fifty pregnant women with PIH and 50 normotensive pregnant women with singleton pregnancy at gestational age more than 20 weeks were included in this study. Clinical evaluation began with a comprehensive history and antenatal record. All deliveries were planned in HFH. Placenta were examined thoroughly by attending physician for abruption, all the findings were recorded clearly in their delivery notes.

**Table 1. Distribution of Abruption in PIH and Normotensive patients (n=100).**

<table>
<thead>
<tr>
<th></th>
<th>Numbers</th>
<th>Abruption Present</th>
<th>P-Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient with PIH(Cases)</td>
<td>50</td>
<td>4(8%)</td>
<td>0.01</td>
</tr>
<tr>
<td>Normotensive(Controls)</td>
<td>50</td>
<td>0(0%)</td>
<td></td>
</tr>
</tbody>
</table>

Criteria for APH used were: Pregnant woman after 20 weeks of gestation, presenting with bleeding through genital tract before the delivery of baby. Criteria used for abruption were: Pregnant woman after 20 weeks of gestation, presenting with pain in abdomen with or without bleeding P/V, stony hard uterus and presence or absence of fetal heart Pinard fetoscop. Use of ultrasound and detailed examination of delivered placenta confirm the diagnosis. Pregnant women with gestational age more than 20 weeks, either primigravida and multigravida with PIH
normotensive primigravida and multigravida and with singleton uncomplicated pregnancy were included in the study.

**Table 2. Effect of Antihypertensive Therapy on Abruption. (n=50)**

<table>
<thead>
<tr>
<th>Patients with Antihypertensive Therapy</th>
<th>Numbers of Cases</th>
<th>Abruption Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with Antihypertensive Therapy</td>
<td>26</td>
<td>0(0%)</td>
</tr>
<tr>
<td>Patients without Antihypertensive Therapy</td>
<td>24</td>
<td>4(16.66%)</td>
</tr>
</tbody>
</table>

Women with less than 20 weeks gestation, multiple pregnancies, diabetes, polyhydramnios, external cephalic version, cigarette smokers, blunt trauma, large size fibroid, preterm/prelabor rupture of membranes and past history of abruption were excluded from the study. Informed consent was taken from all study subjects.

**RESULTS**

Out of 50 Cases, abruption was seen in 4 (8%) who were not treated, while no abruption in patients not treated (table 1). Out of 4 abruptions 1 was in primary gravida, 1 was in multigravida and 2 were in grandmultipara. Out of 50 cases, 26 were on antihypertensive therapy while 24 were not. All abruption was seen in cases that were not on antihypertensive therapy i.e. 16.66% (table 2). Although most of them were delivered by SVD, frequency of C- sections were higher in patients with PIH compared to normotensive (table 3).
DISCUSSION

This study supports the hypothesis that there is a significant clinical correlation between PIH and abruptio placentae\textsuperscript{1,7,10} (P < 0.01). PIH can be diagnosed during antenatal checkup and its treatment can prevent the mother and her baby from the serious consequences of the condition.

Table 3. Mode of Delivery

<table>
<thead>
<tr>
<th></th>
<th>LSCS</th>
<th>Instrumental Delivery</th>
<th>SVD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>PIH(Cases=50)</td>
<td>15</td>
<td>30%</td>
<td>3</td>
</tr>
<tr>
<td>Normotensive(Control=50)</td>
<td>09</td>
<td>18%</td>
<td>7</td>
</tr>
</tbody>
</table>

Our study showed abruptio in 8\% of patients with PIH whereas no abruptio in normotensive women, at the time of delivery. These results indicate that PIH and abruptio placentae are closely related as reported in an earlier study,\textsuperscript{3} while others claimed that PIH and abruptio placentae are unrelated\textsuperscript{11,12} and several reports have discounted the importance of the relation between hypertension and abruptio placentae.\textsuperscript{13} Several studies, however, have found an association between hypertension and placental abruptio.\textsuperscript{14,15}

In our study, patients taking antihypertensive had no abruptio whereas women with PIH who were not on antihypertensive therapy suffered from abruptio. The effect of antihypertensive therapy on the risk of recurrence of abruptio placentae is not clear in literature.\textsuperscript{16} In our series, most of the deliveries were SVD in both
patients with PIH and normotensive while LSCS in cases were 30% and 18% in control group, although delivery by LSCS of as high as 84.6% has been reported.\(^4\)

In conclusion, this study showed that there is a significant clinical correlation between PIH and abruptio placentae. Controlling the BP, lowered the abruption rate in pregnant women. Abruption remains a major obstetric complication, and in rural setting, community awareness to treat PIH is a platform from which goal oriented targets can be achieved.

**REFERENCES**


