AIM OF THE STUDY

Evaluating placental thickness, measured at the insertion of the umbilical cord, as a parameter for estimating gestational age of the foetus.

MATERIALS AND METHODS

The study include 450 antenatal women attending antenatal OP in the Department of Obstetrics and Gynaecology, Tirunelveli Medical College Hospital between the study period of 1st May 2013 to 1st May 2014. The dissertation is a study on the placental thickness and analyses the same.

INCLUSION CRITERIA

Normal antenatal women in all gestational ages between 14 - 40 weeks were included in the study with

- A known LMP
- Singleton uncomplicated pregnancy

EXCLUSION CRITERIA

1) Pregnancies complicated with PIH, diabetes, twins, hydrops, foetal growth restriction and congenital anomalies.
2) Placenta with morphological variations like bilobed placenta, succenturiate placenta, circumvallate placenta and placenta membranaceae are excluded.

3) Placenta with variable cord insertions like marginal or battledore placenta, velamentous placenta is excluded.

4) Placenta with poor visualisation of cord insertion is excluded.

5) Placenta with poor ultrasonographic visualisation were excluded.

6) Poor visualisation may be due to maternal obesity, posterior shadowing by foetal parts in late third trimesters.

7) Pregnancies complicated by vaginal bleeding both in the early and late pregnancy.

8) Pregnancies complicated by anaemia, cardiac disorders, uterine anomalies.

All the antenatal women were subjected to sonogram using the Larson and Turbo Sequina model with a convex probe with a frequency of 2-5 M Hz.

RESULTS:

Placental thickness:

The GA LMP and GA USG were compared with reference to Placental thickness.
Table-22: Comparison between GA LMP and GA USG with Placental thickness

<table>
<thead>
<tr>
<th>Placental Thickness</th>
<th>n</th>
<th>GA LMP</th>
<th>GA USG</th>
<th>Difference b/w means</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>SD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-20</td>
<td>43</td>
<td>18.0</td>
<td>16.5</td>
<td>1.5</td>
<td>2.108</td>
<td>P=0.038</td>
</tr>
<tr>
<td>20-30</td>
<td>183</td>
<td>24.1</td>
<td>23.2</td>
<td>0.9</td>
<td>2.691</td>
<td>P=0.007</td>
</tr>
<tr>
<td>30-40</td>
<td>202</td>
<td>34.6</td>
<td>34.2</td>
<td>0.4</td>
<td>1.476</td>
<td>P=0.141</td>
</tr>
<tr>
<td>40-50</td>
<td>22</td>
<td>37.7</td>
<td>37.5</td>
<td>0.2</td>
<td>0.878</td>
<td>P=0.385</td>
</tr>
<tr>
<td>Total</td>
<td>450</td>
<td>28.9</td>
<td>28.2</td>
<td>0.7</td>
<td>1.437</td>
<td>P=0.151</td>
</tr>
</tbody>
</table>

The above table -22 states the comparison between the GA LMP and GA USG with reference to the different levels of placental thickness. In 10-20 mm of thickness the mean gestational ages of GA LMP and GA USG were 18.0±3.8 weeks and 16.5±2.5 mm respectively. The difference between them was statistically significant (P<0.05). Similarly in 20-30 mm the difference between them was statistically significant (P<0.05).

But, in 30-40 mm and 40-50 mm the differences between the mean weeks of GA LMP and GA USG were not statistically significant (P>0.05). The mean weeks of GA LMP and GA USG were also not statistically significant (P>0.05).
CONCLUSION

1. There is a linear and direct relationship between the placental thickness and gestational age.

2. The placental thickness did not vary with parity or maternal age.

3. The placental thickness has a direct correlation with estimate foetal weight of the foetus.

4. Meticulous measurement of the placental thickness aids in the early diagnosis of Hb Bart disease, homozygous alpha thalassemia, foetal growth restriction, Diabetes and Hydropsfoetalis.

5. Placental thickness correlates best with the gestational age especially in the third trimester.

6. Placental thickness could be considered as an additional parameter in estimating gestational age in the third trimester.

KEY WORDS: Placental Thickness, Gestational Age, Last Menstrual Period