OBSERVATIONS

In the present study we have evaluated the changes in lipoprotein profile in cases of habitual abortion and intra-uterine growth retardation (IUGR) in comparison to normal uncomplicated pregnancy. Intra-uterine growth retardation cases were compared to normal third trimester pregnancy during antepartum and 7th day post-partum period.

This study included 64 cases with 7 healthy pregnant females in 1st trimester (Group A₁), 25 cases with history of habitual abortion (Group A₂), 7 healthy females with uncomplicated pregnancy in IIIrd trimester (Group B₁), 17 cases with intra-uterine growth retardation who had normal vaginal delivery (Group B₂) and 8 cases with intra-uterine growth retardation who had caesarean section (Group B₃).

Table - I

Distribution of cases in various groups.

<table>
<thead>
<tr>
<th>Group</th>
<th>Diagnosis</th>
<th>No. of cases</th>
<th>Percentage</th>
<th>Mean ± S.D. age(yrs.)</th>
<th>Mean ± S.D. Wt. (kgs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A₁</td>
<td>Normal pregnancy 1st trimester</td>
<td>7</td>
<td>10.94</td>
<td>24.32 ±5.11</td>
<td>51.90 ±3.44</td>
</tr>
<tr>
<td>A₂</td>
<td>Habitual abortion</td>
<td>25</td>
<td>39.06</td>
<td>25.12 ±4.88</td>
<td>50.95 ±4.01</td>
</tr>
<tr>
<td>B₁</td>
<td>Normal pregnancy IIIrd trimester</td>
<td>7</td>
<td>10.94</td>
<td>25.92 ±4.55</td>
<td>52.27 ±3.50</td>
</tr>
<tr>
<td>B₂</td>
<td>IUGR (Normal vaginal delivery)</td>
<td>17</td>
<td>26.56</td>
<td>26.95 ±5.39</td>
<td>52.56 ±4.12</td>
</tr>
<tr>
<td>B₃</td>
<td>IUGR (Caesarean section)</td>
<td>8</td>
<td>12.50</td>
<td>26.32 ±6.57</td>
<td>51.93 ±3.02</td>
</tr>
</tbody>
</table>
Observed result of these cases are mentioned in various table forms.

Abbreviations used in various tables are as follows:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STC</td>
<td>Serum total cholesterol</td>
</tr>
<tr>
<td>STG</td>
<td>Serum triglyceride</td>
</tr>
<tr>
<td>HDL</td>
<td>High density lipoprotein</td>
</tr>
<tr>
<td>LDL</td>
<td>Low density lipoprotein</td>
</tr>
<tr>
<td>SD</td>
<td>Standard deviation</td>
</tr>
<tr>
<td>IUGR</td>
<td>Intra uterine growth retardation</td>
</tr>
<tr>
<td>FTND</td>
<td>Full term normal delivery</td>
</tr>
<tr>
<td>C.Sec</td>
<td>Caesarean section</td>
</tr>
</tbody>
</table>

Wt. : Weight (Kgs.)
Ht. : Height (Inches)
IT : First trimester
IIIT: Third trimester
PP : Post-partum
AP : Ante-partum

't' value was calculated by -

1. As unpaired 't' test -

Degree of freedom (D.F.) = (n₁ + n₂ - 2)

2. As paired 't' test -

Degree of freedom (D.F.) = n-1

t = \frac{\bar{x}_1 - \bar{x}_2}{SE}

\bar{x}_1 - \bar{x}_2 : Difference between means of two samples.

S.E. = Standard error of difference between two means.
Table - II

Lipoprotein profile in cases of habitual abortion in comparison to normal pregnant females in first trimester (GROUP A).

<table>
<thead>
<tr>
<th>Group</th>
<th>STC mg%</th>
<th>STG mg%</th>
<th>HDL mg%</th>
<th>VLDL mg%</th>
<th>LDL mg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A₁</td>
<td>Mean</td>
<td>158.32</td>
<td>93.64</td>
<td>39.84</td>
<td>18.77</td>
</tr>
<tr>
<td>(n=7)</td>
<td>±S.D.</td>
<td>±32.06</td>
<td>±9.77</td>
<td>±10.25</td>
<td>±1.97</td>
</tr>
<tr>
<td>A₂</td>
<td>Mean</td>
<td>151</td>
<td>90.80</td>
<td>38.70</td>
<td>18.16</td>
</tr>
<tr>
<td></td>
<td>±S.D.</td>
<td>±27.15</td>
<td>±9.06</td>
<td>±5.26</td>
<td>±1.81</td>
</tr>
</tbody>
</table>

Group A₁ = Healthy pregnant females in 1st or early 2nd trimester.

Group A₂ = Patients with habitual abortion.

Table II shows mean (± S.D.) values of serum total cholesterol, serum triglyceride, very low density lipoprotein, low density lipoprotein and high density lipoprotein in Group A₁ and A₂.

Details of statistical analysis of Table I data.

1. Mean STC level in cases of normal pregnancy in 1st trimester is 158.32 ± 32.06 mg% and in cases of habitual abortion is 151 ± 27.15 mg%. Though the value is lower than in normal pregnancy but the difference is not statistically significant.

A₁ vs A₂  \( t = 0.55 \)  \( p > 0.05 \)
2. Mean STG value in normal pregnancy is $93.64 \pm 9.77$ mg% while in cases of habitual abortion it is $90.80 \pm 9.06$ mg%. STG values in normal pregnancy in relation to habitual abortion is little higher but not statistically significant.

\[ A_1 \text{ vs } A_2 \quad t = 0.69 \quad P \geq 0.05 \]

3. Mean HDL levels in normal pregnancy is $39.84 \pm 10.25$ mg% while in cases of habitual abortion is $38.70 \pm 5.26$ mg%. Difference of HDL value between normal pregnancy and habitual abortion is statistically insignificant.

\[ A_1 \text{ vs } A_2 \quad t = 0.28 \quad P \geq 0.05 \]

4. Mean VLDL value in normal pregnancy is $18.77 \pm 1.97$ mg% and in cases of habitual abortion is $18.16 \pm 1.81$ mg%. Difference of VLDL values in normal pregnancy vs habitual abortion is statistically not significant.

\[ A_1 \text{ vs } A_2 \quad t = 0.73, \quad P \geq 0.05 \]

5. Mean LDL value in normal pregnancy is $96.09 \pm 29.93$ mg% and in cases of habitual abortion $88.40 \pm 32.23$ mg%. Difference of LDL values in normal pregnancy vs habitual abortion is statistically not significant.

\[ A_1 \text{ vs } A_2 \quad t = 0.59, \quad P \geq 0.05. \]

So although there is difference in levels of lipoproteins in these two groups, the difference is small and not statistically significant.
LIPOPROTEIN PROFILE OF NORMAL PREGNANT
FEMALES IN 1st TRIMESTER

STC : Serum Total Cholesterol
STG : Serum Triglyceride
HDL : High density lipoprotein
LDL : Low density lipoprotein
VLDL : Very low density lipoprotein.
LIPOPROTEIN PROFILE OF PATIENTS WITH HABITUAL ABORTION

STC : Serum Total Cholesterol
STG : Serum Triglyceride
HDL : High density lipoprotein
LDL : Low density lipoprotein
VLDL : Very low density lipoprotein.
Table - III

Various lipoprotein fractions in group $A_1$ (Habitual abortion) in comparison to normal 1st trimester pregnancy.

<table>
<thead>
<tr>
<th>Group</th>
<th>LDL</th>
<th>HDL</th>
<th>VLDL</th>
</tr>
</thead>
<tbody>
<tr>
<td>$A_1$ : Normal full term pregnancy (n=7)</td>
<td>63.9%</td>
<td>23.3%</td>
<td>12.8%</td>
</tr>
<tr>
<td>$A_2$ : Habitual abortion (n=25)</td>
<td>60.9%</td>
<td>26.6%</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

This table shows percentage of various lipoprotein fractions like LDL, HDL & VLDL, in cases of habitual abortion in comparison to normal pregnancy. This shows that percentage of all the component is higher in normal pregnancy in comparison to habitual abortion but no significant difference can be made out between these groups in all lipoprotein fractions.
LIPOPROTEIN FRACTIONS (%) IN NORMAL PREGNANCY (1st TRIMESTER)

- HDL (25.8%)
- LDL (62.1%)
- VLDL (12.1%)

HDL : High density lipoprotein
LDL : Low density lipoprotein
VLDL : Very low density lipoprotein.
LIPOPROTEIN FRACTIONS(%) IN PATIENTS OF HABITUAL ABORTION

HDL (26.8%)
VLDL (12.5%)
LDL (60.9%)

HDL : High density lipoprotein
LDL : Low density lipoprotein
VLDL : Very low density lipoprotein.
Table - IV
Serum total cholesterol values in intra-uterine growth retardation cases in comparison to normal pregnancy during antepartum and post-partum period.

<table>
<thead>
<tr>
<th>Group</th>
<th>$B_1$ Normal pregnancy</th>
<th>$B_2$ IUGR (FTMD)</th>
<th>$B_3$ IUGR (C.Sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AP(I)</td>
<td>PP(II)</td>
<td>AP(III)</td>
</tr>
<tr>
<td>No. of subjects(n)</td>
<td>7</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Mean STC(mg%)</td>
<td>196.8</td>
<td>184.2</td>
<td>227.50</td>
</tr>
<tr>
<td>Standard deviation(SD)</td>
<td>36.82</td>
<td>30.14</td>
<td>41.00</td>
</tr>
</tbody>
</table>

Statistical analysis of values of table IV shows -

Mean STC level in cases of normal pregnancy is $196.8 \pm 36.82$ mg% and in cases of IUGR (C.Sec.) is $233.57 \pm 29.39$ mg%, which is significantly higher than normal control. Similarly, the values in IUGR cases with full term normal delivery is also higher than normal pregnancy values but the difference is not statistically significant.

$1 \text{ vs } V \quad t = 2.17 \quad P \leq 0.05$

$1 \text{ vs } III \quad t = 1.76 \quad P \geq 0.05$
When mean STC values between antepartum and post-partum period are compared, mean STC level decreases in all the three groups during post-partum period. In normal pregnancy from 196.8 ± 36.82 mg% (AP) to 184.2 ± 30.14 mg% (PP) and in cases of IUGR (C.Sec.) from 227.50 ± 41 mg% to 196 ± 30.58 mg% and in cases of IUGR (FTND) from 233.57 ± 29.39 mg% to 212.85 ± 27.81 mg%. This fall in levels during post-partum period is significant statistically in cases of IUGR (FTND). Although there is fall in post-partum levels in other two groups, but the difference is not statistically significant.

1. III vs IV  
   \( t = 2.53 \)  
   \( P < 0.05 \)

2. I vs II  
   \( t = 1.42 \)  
   \( P > 0.05 \)

3. V vs VI  
   \( t = 1.44 \)  
   \( P > 0.05 \)

During post-partum period when STC values are compared between different groups, the values are less than antepartum values, but on comparing these values no significant difference is present.

1. II vs IV  
   \( t = 0.86 \)  
   \( P > 0.05 \)

2. II vs VI  
   \( t = 1.90 \)  
   \( P > 0.05 \)

When mean STC values are compared between IUGR cases with FTND and C.Sec. Section then no statistically significant difference can be find out neither in the antepartum period nor in the post-partum period.

1. III vs V  
   \( t = 0.42 \)  
   \( P > 0.05 \)

2. IV vs VI  
   \( t = 1.36 \)  
   \( P > 0.05 \)
SERUM TOTAL CHOLESTEROL IN DIFF GROUPS

N. PREG : Normal pregnancy 1st Trimester
H.A. : Habitual abortion
N. III T : Normal pregnancy IIIrd Trimester
IUGR-A : IUGR (Normal delivery)
IUGR-B : IUGR (Caesarean section).
Table V

Serum triglyceride levels in intra-uterine growth retardation cases in comparison to normal pregnancy during antepartum and post-partum period.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Group B₁ Normal pregnancy</th>
<th>Group B₂ IUGR (FTND)</th>
<th>Group B₃ IUGR (C.Sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AP(I) PP(II)</td>
<td>AP(III) PP(IV)</td>
<td>AP(V) PP(VI)</td>
</tr>
<tr>
<td>No. of subjects (n)</td>
<td>7 7</td>
<td>17 17</td>
<td>8 8</td>
</tr>
<tr>
<td>Mean serum triglyceride (mg%)</td>
<td>139.8 117.2</td>
<td>108 96.8</td>
<td>128.30 104.28</td>
</tr>
<tr>
<td>Standard deviation (S.D.)</td>
<td>14.56 11.2</td>
<td>18.56 23.28</td>
<td>26.67 26.52</td>
</tr>
</tbody>
</table>

Statistical analysis of table V -

Mean STG levels in cases of IUGR (C.Sec.) and normal pregnancy shows a significant fall from antepartum to postpartum period. Mean STC level in normal pregnancy decreased from 139.8 ± 14.56 mg% to 117.2 ± 11.2 mg% and in IUGR levels decreased to 104.28 ± 26.52 mg% from 128.30 ± 26.67 mg% in antepartum period. The difference in both the cases is statistically significant.
In cases of IUGR (FTND) mean STG level also fall from $108 \pm 18.56$ mg% to $96.8 \pm 23.28$ mg%, but this is statistically insignificant.

$\begin{align*}
\text{I vs II} & \quad t = 3.25 \quad P \leq 0.05 \\
\text{V vs VI} & \quad t = 3.17 \quad P \leq 0.05 \\
\text{III vs IV} & \quad t = 1.61 \quad P \geq 0.05 
\end{align*}$

Mean STG levels in cases of normal pregnancy is $139.8 \pm 14.56$ mg% during antenatal period while in cases of IUGR with normal delivery is $108 \pm 18.56$ mg% which is less than normal pregnancy and this difference is statistically significant.

$\begin{align*}
\text{I vs III} & \quad t = 5.87 \quad P \leq 0.001 
\end{align*}$

When mean STG levels are compared between IUGR cases statistically significant difference is present between these two groups.

$\begin{align*}
\text{III vs V} & \quad t = 2.23 \quad P \leq 0.05 
\end{align*}$

When post-partum mean STG levels are compared, significant difference can be seen between normal pregnancy and IUGR group with normal delivery and IUGR with caesarean section.

$\begin{align*}
\text{II vs IV} & \quad t = 5.87 \quad P \leq 0.001 \\
\text{IV vs VI} & \quad t = 2.23 \quad P \leq 0.05 
\end{align*}$
SERUM TRIGLYCERIDES IN DIFF GROUPS

N. PREG  :  Normal pregnancy 1st Trimester
H.A.     :  Habitual abortion
N. III T :  Normal pregnancy IIIrd Trimester
IUGR-A   :  IUGR (Normal delivery)
IUGR-B   :  IUGR (Caesarean section).
Table VI

Serum high density lipoprotein values in intra-uterine growth retardation cases in comparison to normal pregnancy during antepartum & post-partum period.

<table>
<thead>
<tr>
<th>Group</th>
<th>B1 Normal pregnancy</th>
<th>B2 IUGR (FTND)</th>
<th>B3 IUGR (C.Sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AP(I)</td>
<td>PP(II)</td>
<td>AP(III)</td>
</tr>
<tr>
<td>No. of subjects (n)</td>
<td>7</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Mean serum HDL (mg%)</td>
<td>57.00</td>
<td>55.00</td>
<td>37.86</td>
</tr>
<tr>
<td>t</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
<tr>
<td>Standard deviation (S.D.)</td>
<td>6.00</td>
<td>4.47</td>
<td>7.76</td>
</tr>
</tbody>
</table>

Statistical analysis of table VI shows -

Mean serum HDL values in normal pregnancy during antepartum period is $57 \pm 6$ mg%, while in cases of IUGR (FTND) is $37.86 \pm 7.76$ mg% and in cases of IUGR (C.Sec.) is $42.14 \pm 3.84$ mg%. Values of normal pregnancy is higher than in IUGR cases and the difference is statistically significant.

I vs III \[ t = 5.62 \quad P \angle 0.001 \]

I vs V \[ t = 6.48 \quad P \angle 0.001 \]
The mean HDL values are also higher in normal pregnancy during post-partum period (55 ± 4.47 mg%) than IUGR (FTND) group (37.86 ± 7.76 mg%) and the difference is statistically significant.

\[ t = 6.83 \quad P < 0.001 \]

There is no statistically significant difference in the mean serum HDL values during antepartum and post-partum period in all the three groups.

\[ \text{I vs II} \quad t = 0.70 \quad P > 0.05 \]
\[ \text{III vs IV} \quad t = 1.90 \quad P > 0.05 \]
\[ \text{V vs VI} \quad t = 1.98 \quad P > 0.05 \]

In IUGR group when cases with normal delivery are compared with caesarean section, no significant difference in HDL level is present during antepartum as well as in post-partum period.

\[ \text{III vs V} \quad t = 1.89 \quad P > 0.05 \]
\[ \text{IV vs VI} \quad t = 1.89 \quad P > 0.05 \]
SERUM HDL IN DIFFERENT GROUPS

N. PREG : Normal pregnancy 1st Trimester
H.A. : Habitual abortion
N. III T : Normal pregnancy IIIrd Trimester
IUGR-A : IUGR (Normal delivery)
IUGR-B : IUGR (Caesarean section).
Table VII

Serum very low density lipoprotein values in intra uterine growth retardation cases in comparison to normal pregnancy during antepartum and post-partum period.

<table>
<thead>
<tr>
<th>Groups</th>
<th>( B_1 ) Normal pregnancy</th>
<th>( B_2 ) IUGR (FTND)</th>
<th>( B_3 ) IUGR (C.Sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AP(I) PP(II)</td>
<td>AP(III) PP(IV)</td>
<td>AP(V) PP(VI)</td>
</tr>
<tr>
<td>No. of subjects (n)</td>
<td>7 7</td>
<td>17 17</td>
<td>8 8</td>
</tr>
<tr>
<td>Mean serum VLDL (mg%)</td>
<td>27.96 23.44</td>
<td>20.57 17.60</td>
<td>21.12 20.85</td>
</tr>
<tr>
<td>±</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
<tr>
<td>Standard deviation (S.D.)</td>
<td>2.41 2.24</td>
<td>3.17 2.93</td>
<td>6.38 5.30</td>
</tr>
</tbody>
</table>

The observed mean serum VLDL values in cases of normal pregnancy is 27.96 ± 2.41 mg% during antepartum period and 23.44 ± 2.24 mg% in post-partum period which is significantly lesser than previous value. Similarly, mean serum VLDL value in cases of IUGR (FTND) is 20.57 ± 3.17 mg% during antepartum period and 17.6 ± 2.93 mg% during post-partum period which is again statistically significant.

I vs II \( t = 3.64 \) \( P < 0.05 \)
III vs IV \( t = 2.88 \) \( P < 0.05 \)
On comparing mean serum VLDL value in cases of IUGR with normal pregnancy, level of serum VLDL is significantly higher in cases of normal pregnancy (27.96 ± 2.41 mg%) than in cases of IUGR (FTND) 20.57 ± 3.17 mg% and in cases of IUGR (Caesarean section) 21.12 ± 6.38 mg%.

\[
\begin{align*}
\text{I vs III} & \quad t = 6.21 \quad P \leq 0.001 \\
\text{I vs V} & \quad t = 2.84 \quad P \leq 0.05
\end{align*}
\]

During post-partum period also the difference in VLDL levels between IUGR (FTND) and normal pregnancy is maintained with higher values in normal pregnancy. But this difference was not significant on comparing normal pregnancy with IUGR (Caesarean section).

\[
\begin{align*}
\text{II vs IV} & \quad t = 5.26 \quad P \leq 0.001 \\
\text{II vs VI} & \quad t = 1.25 \quad P \geq 0.05
\end{align*}
\]

While comparing the mean VLDL values in cases of both the groups of IUGR, no significant difference can be find out during antepartum as well as during post-partum period.

\[
\begin{align*}
\text{III vs V} & \quad t = 1.07 \quad P \geq 0.05 \\
\text{IV vs VI} & \quad t = 1.62 \quad P \geq 0.05
\end{align*}
\]
SERUM VLDL IN DIFFERENT GROUPS

N. PREG : Normal pregnancy 1st Trimester
H.A. : Habitual abortion
N. III T : Normal pregnancy IIIrd Trimester
IUGR-A : IUGR (Normal delivery)
IUGR-B : IUGR (Caesarean section).
Serum low density lipoprotein values in intra-uterine growth retardation cases in comparison to normal pregnancy during antepartum and post-partum period.

<table>
<thead>
<tr>
<th>Groups</th>
<th>B₁ Normal pregnancy</th>
<th>B₂ IUGR (FTND)</th>
<th>B₃ IUGR (C.Sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AP(I)    PP(II)</td>
<td>AP(III)       PP(IV)</td>
<td>AP(V)  PP(VI)</td>
</tr>
<tr>
<td>No. of subjects (n)</td>
<td>7         7</td>
<td>17             17</td>
<td>8       8</td>
</tr>
<tr>
<td>Mean serum LDL (mg%)</td>
<td>118.00    104.20</td>
<td>166.56         146.37</td>
<td>155.6   135.14</td>
</tr>
<tr>
<td>Standard deviation (S.D.)</td>
<td>36.70   31.0</td>
<td>35.27          29.39</td>
<td>30.27   27.57</td>
</tr>
</tbody>
</table>

Mean serum LDL values observed in cases of normal pregnancy is 118 ± 36.70 mg% which is significantly less than serum LDL in cases of IUGR (FTND) 166.56 ± 35.27 mg% and IUGR (C.Sec.) 155.6 ± 30.27 mg%. This difference is statistically significant.

I vs III \( t = 2.97 \) \( P < 0.05 \)

I vs V \( t = 2.89 \) \( P < 0.05 \)
SERUM LDL IN DIFFERENT GROUPS

N. PREG : Normal pregnancy 1st Trimester
H.A. : Habitual abortion
N. III T : Normal pregnancy IIIrd Trimester
IUGR-A : IUGR (Normal delivery)
IUGR-B : IUGR (Caesarean section).
Similar difference is maintained during post-partum period where again the serum LDL values are higher in IUGR (FTND) group $146.37 \pm 29.39$ mg% and IUGR (C.Sec.) group $135.14 \pm 27.57$ mg% than normal pregnancy $104.20 \pm 31.0$ mg%. Here also the difference is statistically significant.

$$\text{II vs VI} \quad t = 3.27 \quad P < 0.05$$
$$\text{II vs IV} \quad t = 2.19 \quad P < 0.05$$

When mean LDL values are compared between antepartum and post-partum period, levels fall in post-partum period in all the three groups but the difference is not statistically significant.

$$\text{I vs II} \quad t = 0.75 \quad P > 0.05$$
$$\text{III vs IV} \quad t = 1.41 \quad P > 0.05$$
$$\text{V vs VI} \quad t = 1.81 \quad P > 0.05$$

There is also no significant difference in mean serum LDL value in cases of IUGR (FTND) and IUGR (C.Sec.) group during antepartum as well as during post-partum period.

$$\text{III vs V} \quad t = 1.92 \quad P > 0.05$$
$$\text{IV vs VI} \quad t = 1.21 \quad P > 0.05$$
STC : Serum Total Cholesterol
STG : Serum Triglyceride
HDL : High density lipoprotein
LDL : Low density lipoprotein
VLDL : Very low density lipoprotein.
STC : Serum Total Cholesterol
STG : Serum Triglyceride
HDL : High density lipoprotein
LDL : Low density lipoprotein
VLDL : Very low density lipoprotein.
STC : Serum Total Cholesterol
STG : Serum Triglyceride
HDL : High density lipoprotein
LDL : Low density lipoprotein
VLDL : Very low density lipoprotein.
**Table - IX**

Various lipoprotein fractions in Group B (Intra-uterine growth retardation) in comparison to normal pregnancy (%).

<table>
<thead>
<tr>
<th>Group</th>
<th>LDL</th>
<th>HDL</th>
<th>VLDL</th>
</tr>
</thead>
<tbody>
<tr>
<td>B₁: Normal IIIrd trimester pregnancy (n=7)</td>
<td>58.1</td>
<td>28.1</td>
<td>13.8</td>
</tr>
<tr>
<td>B₂: IUGR (FTND) (n=17)</td>
<td>70.0</td>
<td>16.8</td>
<td>9.1</td>
</tr>
<tr>
<td>B₃: IUGR (C. Sec.) (n=8)</td>
<td>60.9</td>
<td>26.6</td>
<td>12.5</td>
</tr>
</tbody>
</table>

This table shows percentage of lipoprotein fractions - LDL, HDL & VLDL in cases of normal pregnancy in comparison to IUGR (FTND) cases and IUGR (C. Sec.) cases. This shows that percentage of LDL fraction is increased in cases of IUGR (FTND) 70% and IUGR (C. Sec.) 60.9% than in normal pregnancy 58.1%. But the percentage of HDL & VLDL fractions of lipoprotein are higher in cases of normal pregnancy than in cases of IUGR group.

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**Lipoprotein Fractions (%) in Normal Pregnancy (IIIrd Trimester)**

- **HDL (28.1%)**
- **LDL (58.1%)**
- **VLDL (13.8%)**

HDL: High density lipoprotein  
LDL: Low density lipoprotein  
VLDL: Very low density lipoprotein.
LIPOPROTEIN FRACTIONS(%) IN PATIENTS WITH IUGR (FTND)

HDL (16.8%)

VLDL (9.1%)

LDL (74.0%)

HDL : High density lipoprotein

LDL : Low density lipoprotein

VLDL : Very low density lipoprotein.
LIPOPROTEIN FRACTIONS (%) IN PATIENTS
WITH IUGR (LSCS)

HDL (23.3%)

LDL (63.9%)

VLDL (12.8%)

HDL : High density lipoprotein
LDL : Low density lipoprotein
VLDL : Very low density lipoprotein.