## CONTENTS

1. INTRODUCTION  

2. AIMS AND OBJECTIVES  

3. PLACENTA

### 3.1 Placenta

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1.1</td>
<td>Shape and size of placenta.</td>
</tr>
<tr>
<td>3.1.2</td>
<td>Placental tissues.</td>
</tr>
<tr>
<td></td>
<td>A. Chorionic plate</td>
</tr>
<tr>
<td></td>
<td>B. Basal plate</td>
</tr>
<tr>
<td></td>
<td>C. Intervillous space</td>
</tr>
</tbody>
</table>

### 3.2 Structure of placenta

### 3.3 Placental barrier

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3.1</td>
<td>Layers that constitute the placental barrier</td>
</tr>
</tbody>
</table>

### 3.4 Uteroplacental circulation

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.4.1</td>
<td>Fetal circulation</td>
</tr>
<tr>
<td>3.4.1</td>
<td>Maternal circulation</td>
</tr>
</tbody>
</table>

### 3.5 Functions of Placenta

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5.1</td>
<td>Placental transfer</td>
</tr>
<tr>
<td>3.5.2</td>
<td>Respiratory function</td>
</tr>
<tr>
<td>3.5.3</td>
<td>Nutritive function</td>
</tr>
<tr>
<td>3.5.4</td>
<td>Excretory function</td>
</tr>
<tr>
<td>3.5.5</td>
<td>Immunological function</td>
</tr>
<tr>
<td>3.5.6</td>
<td>Endocrine function</td>
</tr>
</tbody>
</table>
4. PREECLAMPSIA

4.1 Preeclampsia

4.1.1 Classification of hypertensive pregnancies
4.1.2 Diagnostic criteria for preeclampsia
4.1.3 Classification of preeclampsia
4.1.4 Risk Factors
4.1.5 Etiology
4.1.6 Pathogenesis

5. REVIEW OF LITERATURE

6. MATERIALS AND METHODS

6.1 Study design
6.2 Methods of data collection.
6.3 Classification of severity of preeclampsia
6.4 Morphological study

6.4.1 Placental weight
6.4.2 Placental diameter
6.4.3 Placental thickness
6.4.4 Number of cotyledons

6.5 Histopathological study

6.5.1 Haematoxylin and eosin stain
6.5.2 Preparation of stains
6.5.3 Staining

6.6 Periodic acid Schiff’s reaction

6.6.1 Preparation of Schiff’s reagent
6.6.2 Staining
6.7 Alcian blue
   6.7.1 Preparation of Alcian blue stain
   6.7.2 Staining

6.8 Modified Gomori’s method
   6.8.1 Preparation of incubation mixture
   6.8.2 Staining

6.9. Sudan black
   6.9.1 Preparation of Sudan black stain
   6.9.2 Staining

7. OBSERVATIONS AND RESULTS

7.1 Maternal parameters
   7.1.1 Mean blood pressure
   7.1.2 Mode of delivery

7.2 Morphology
   7.2.1 Placental weight
   7.2.2 Placental diameter and thickness
   7.2.3 Number of cotyledons
   7.2.4 Marginal insertion of cord
   7.2.5 Placental infarcts

7.3 Fetal parameters:
   7.3.1 Mean fetal birth weight:
   7.3.2 Mean APGAR score:
7.4 Histopathology – Hematoxylin and Eosin stain

7.4.1 Syncytial knots
7.4.2 Cytotrophoblast proliferation
7.4.3 Basement membrane thickening
7.4.4 Vasculosyncytial membranes
7.4.5 Stromal fibrosis
7.4.6 Fibrinoid necrosis
7.4.7 Hypovascular villi
7.4.8 Endarteritis obliterans
7.4.9 Tunica media proliferation

7.5 Histochemistry

7.5.1 Placental alkaline phosphatase activity – Modified Gomori’s method
7.5.2 Glycogen – Periodic acid Schiff’s reaction
7.5.3 Glycosaminoglycans – Alcian blue
7.5.4 Lipids – Sudan black

8. DISCUSSION

8.1 Morphology

8.2 Histology

8.2.1 Syncytial knots
8.2.2 Cytotrophoblast proliferation
8.2.3 Basement membrane thickening
8.2.4 Vasculosyncytial membrane
8.2.5 Stromal fibrosis and fibrinoid necrosis
8.2.6 Hypovascular villi
8.2.7 Endarteritis obliterans
8.2.8 Tunica media proliferation
8.3 Placental alkaline phosphatase
8.4 Placental glycogen
8.5 Placental glycosaminoglycans
8.6 Placental lipids

9. CONCLUSION 140

10. SUMMARY 142

11. LIMITATIONS OF STUDY 149

12. REFERENCES 150

ANEXXURES

Certificates
History sheet
Consent form
Master chart
Publications