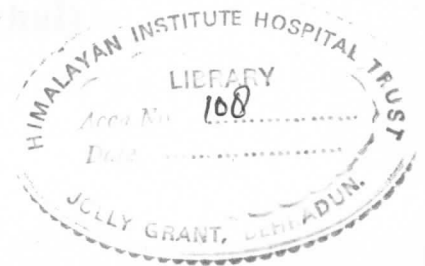


**MORPHOLOGICAL  
AND  
HISTOPATHOLOGICAL  
STUDY OF PLACENTA IN ANAEMIC  
MOTHERS**

**THESIS  
FOR THE DEGREE OF**

**CERTIFICATE**



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# SUMMARY AND CONCLUSION

## *SUMMARY* *&* *CONCLUSION*

## SUMMARY AND CONCLUSION

Nutritional anaemia is the most wide spread nutritional disorder in the world affecting 30% of the worlds population and is more common among the expecting mothers. Severity of anaemia among expectant mother was judged by the criteria suggested by WHO<sup>1</sup>.

In the present study morphological and histopathological changes in placenta of anaemic mother is undertaken to study effects of aneamia on gestational age of mothers, foetal outcome, morphology of placenta (weight, volume, diameter, cotyledon and fibrin deposition) and histopathological changes in the placenta.

Present study was carried out in 60 placentae from patients delivered in the department of gynaecology and obstretics. Control group comprise of 30 placentae from mother who are not anaemic and study group comprise of 30 placentae from mothers who were anaemic. Study group was divided in three groups based on severity of anaemia (mild, moderate and severe).

It was fond that period of gestation decreased with severity of anemia. Various workers have attributed this to either degenerative changes or increased intervillous fibrinoid deposition causing premature delivery where placenta could not further compensate to the insult caused by hypoxia.

Prematurity and low birth weight increased in severe anaemia. This is attributed to early maturity of placenta, because of hypoxia.

Placental weight of anaemic mother was reduced with severity of anaemia. It was suggested by authors that anaemia leads to retarded growth of the placenta due to decrease in total placental DNA.

Mean placental volume decreases with severity of anaemia and number of cotyledons also decreases.

For microscopic examination of placenta 2cmx2cm size tissue was taken at the junction of middle and peripheral part of the placenta.

Tissue was fixed in formal saline, processed and blocks were made by embedding in paraffin wax. Sections were taken and mounted on slides.

Tissue sections were stained by hematoxyline and eosin for routine examination. Sections were also stained by Van Gieson stain to demonstrates collagen and by PAS stain to study basement membrane.

Selected slides are photographed in low power and high power magnification.

Thickening of cytotrophoblastic and villous capillary basement membrane and cytotrophoblastic proliferation increases thickness of placental barrier and this adversely affects foetal well being.

Microscopic study of placenta of anaemic mothers showed markedly increased syncytial knots. These are formed by accumulation of syncytiotrophoblastic nuclei on the surface of villi under hypoxic environment.

Cytotrophoblastic proliferation was markedly seen in placenta of moderate and severely anaemic mothers. And this attributes as a compensatory mechanism in hypoxic placenta.

Stromal fibrosis of stem villi which is a good indicator of placental maturity shows extensive stromal fibrosis in conditions related to hypoxia. It is probable that a number of factors may contribute to the formation of stromal fibrosis. The two main factors thought to be responsible for the formation of stromal fibrosis are, normal aging process and a reduced uteroplacental blood flow.

Terminal villi of placenta of anaemic mothers showed increased number of capillaries and some of them show marked dilatation.

Increased villous capillarization of terminal villi in hypoxic condition result in the increase of the vasculosyncytio membranes and this is considered as a adaptation in hypoxic environment.

There was marked thickening of trophoblastic as well as villous capillary basement membrane. The reason for these basement membrane changes, presumably is that ; constituents of basal lamina are secretory products of villous trophoblast ; the increased thickness indicates increased secretion or decreased turn over of basal lamina molecules.

There is a threshold for the level of haemoglobin and consequently for oxygen transport, below which placental function is impaired. This explains the pathogenesis of increased frequency of premature births, foetal death and perinatal mortality in anaemia of pregnancy.

Therefore it is suggested by many authors, the importance of advice to pregnant mother to follow a balanced healthy diet, supplementation with vitamins and minerals including iron during pregnancy. These have no effect on birth dimensions when given during last two trimesters of pregnancy.

