Distribution of chorionic villi in the foetal component of placenta in camel (Cameleus dromedarius)

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ABSTRACT

The placenta plays an important role in the exchange of metabolites from the foetal side. Studies concerning the dromedary foetal membranes have been compiled by Morton (1961), Moniem (1968), Musa (1977), Skidmore, Wooding, and Allen, (1996) and Salman (2001). It should be noted that the morphological studies of the dromedary foetal membranes carried out so far were concentrated mainly on gross anatomy and histology, with rather scanty information about their ultrastructure and histochemistry. In Sudan, Salman (2001) has studied the dromedary placenta in detail. However, very little work has been performed on the other foetal membranes. It appears from the literature cited that there is a need for further and detailed histological and histochemical studies on the foetal membranes of the dromedary camel. It is hoped, therefore, that the present investigation will be a contribution to a better knowledge of the structure and function of the various components of the camel foetal membranes and placenta.

Keywords: Placenta, camel, chorionic villi, foetal component

MATERIALS AND METHODS

The post parturient placentae for the present work were collected from the ten female camels after a full term of gestation immediately after parturition at National Research Centre on Camel, Bikaner. Apparently all the placentae were normal.
Methods applied for microscopic study:

Small pieces of tissues from various parts of the placenta were collected, which were fixed in the Neutral formaline. All the tissues were processed by paraffin embedding technique. They were stained by H & E stain, Weigert’s Resorcin Fauchsin stain and Wildert’s Reticular stain, Mallory’s triple stain.

RESULTS AND DISCUSSION

In camel the post parturient placenta comprised of chorion - the external layer, amnion and the internal membrane - the inner-most membrane fused with allantois which covered the foetus (Fig. 1). Based on the distribution type of the chorionic villi, in camel, the placenta was found to be in diffused in form.

![Diagrammatic representation of foetal membrane](image)


**Fig. 1**: Diagrammatic representation of foetal membrane

Just after parturition it appeared as a pinkish-red coloured layer. The chorion had scattered faint to pronounced chorionic folds and villi. In the
central area the folds were thick and pronounced and much branched but in the polar areas the folds were thin.

![Fig. 2: Foetal membrane of camel at full term showing greater curvature. (A), lesser curvature (B), umbilical cord (C), short horn (D) and long horn (E).](image)

The external surface of the chorion comprised of the diffusedly distributes chorionic villi. This was in agreement with Morton (1961), and the reports of cited by Morton (1961), Amoroso (1952), Abadalla (1962), Van Lennep (1964), and Chen and Yuvan (1979). Generally the villi were denser in the central area (Fig. 3) as compared to the polar areas.

![Fig. 3: Central dense area of the chorion of camel showing numerous thick folds (arrow)](image)
Some areas like the area near the umbilical cord showed very few villi. The villi were distributed in varying densities. In the polar areas and the lesser curvature of the long and short horns, the villi were spares and not completely devoid of villi as suggested by Turner (1875). A characteristic feature of the chorionic surface was the occurrence of folds in both, central and polar areas which were studded with villi.

REFERENCES


