Development of the areola in the early placenta of the one humped camel (Camelus dromedarius): A light, scanning and transmission electron microscopical study.

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Abstract:

This study aimed to elucidate development of the areola in the early dromedary placenta in comparison with that of the pig and mare. Placental tissues from 25 pregnant camels were obtained from Cairo abattoir and prepared for light, scanning and transmission electron microscopy by routine methods. Vascular casts were made by injection of 4 : 1 liquid plastic mixture of mercox and methylmethacrylate. Areolar formation was first observed at 4.5 cm curved-crown-rump CVR length, while by 5-9 cm CVR length, the endometrial surface was uneven and studded with numerous uterine gland openings, where corresponding foetal areolae were barely detectable and the foetal areolar cells were of variable appearance and covered with long microvilli. At 10-13 cm CVR length the uterine gland openings developed irregular folds and the maternal areolar cells showed numerous apical blebs. At 14-29 cm CVR length the foetal areolae showed a great increase in height at the expense of their width. At 30-34 cm (CVR) length the maternal areolae appeared discoid and sharply demarcated from the surrounding inter-areolar tissues and the foetal areolae were rounded to irregular in shape with well-developed areolar rims. The vascular casts showed a widely meshed capillary network on the maternal areola, connecting with the pre- and post-capillary vessels, whereas the foetal side showed a relatively dense capillary meshwork. These studies indicate that the areola in the placenta of the one-humped camel is of the regular type like in the pig, and is poorly vascularized.

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