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226 Rabbit Blastocyst Coverings: Evidence for a Role of the Trophoblast in Neozona Formation<br>R. Leiser. H.-W. Denker. Bern and Aachen

The zona pellucida has previously been shown to be dissolved already during early intrauterine development of rabbit blastocysts and to be replaced by the 'neozona' ( NZ ) at the inside of the persisting mucoprotein layer (Denker and Gerdes. 1979). Replacement of the zona pellucida by new material is not a pecularity of the rabbit but a more widespread phenomenon ('capsule' of the horse. Betteridge et al.. 1982; carnivores. possibly others). The origin of the NZ material is unknown. In this study we are correlating differences in NZ structure with the different regions of the trophoblast apposed to it in order to seek evidence for trophoblast involvement in NZ formation. Rabbit blastocysts ( 5 and 6 days post-coitum. d.p.c.) were fixed in glutaraldehyde with or without ruthenium red and processed for TEM. Blastocyst coverings overlying the embryonic disc or the extraembryonic regions were compared. At 5 d.p.c.. when a complete layer of trophoblast is still present including the embryonic disc (Rauber's layer), the NZ was found equally well developed in all regions. In contrast, at 6 d.p.c.. when Rauber's layer is degenerating (Mootz. 1979). the NZ is considerably thinner at the embryonic disc than in the extraembryonic regions where the trophoblast is still intact. These data suggest that deposition of NZ material depends at least in part on the presence of functioning trophoblast cells, and that the trophoblast has the ability to promote the polymerization of matrix molecules over its surface. The biochemical nature of these trophoblastic factors needs to be defined.

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