

THE ROLE OF CERTAIN PROTEINASES IN IMPLANTATION INITIATION IN THE RABBIT

H.-W. Denker

Abteilung Anatomie der RWTH, D-5100 Aachen (West
Germany)

Attachment of the trophoblast onto the uterine epithelium, the initial step in implantation of the mammalian embryo in the uterus, may involve trophoblast-derived and uterine glycosidases and proteases acting on extracellular glycoproteins shown to be present at the interface between both tissues, i.e. the blastocyst coverings and a particularly well-developed glycocalyx of the uterine epithelium. Interest is focused on a peculiar endopeptidase which appears in the trophoblast exactly in the attachment stage. Biochemical investigations including experiments on the interaction with highly specific proteinase inhibitors in vitro show that the active site of this enzyme is closely related to that of trypsin. Substrate specificity, however, is much more restricted. Intrauterine administration of proteinase inhibitors in vivo results in blockage of lysis of blastocyst coverings and inhibition of implantation which points to an important role of this enzyme in initiation of implantation in this species.

Abstracts

XIII International Embryological Conference

Berlin
25 - 29 September 1978