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Seventy-eighth Session

University of Miami School of
Medicine

April 20, 21, 22, 23, 1965

VILAR*, Oscar, Albert Einstein Medical Center Research Institute, Philadelphia, Pa. (Introduced by Anthony Boccabella) *An electron microscopical study of the phagocytosis of germinal cells by Sertoli cells in tissue cultures.*

Testicular tissue from 26-day-old rats was grown *in vitro* for various periods of time. After three weeks in culture, the seminiferous tubules contained only Sertoli cells and an occasional primitive type A spermatogonium. At this time, the ultrastructure of Sertoli cells was the same as in normal tissue. During the first three weeks in culture, the Sertoli cells were actively engaged in removal of germinal cell debris. Their ultrastructure revealed many characteristic features usually found in phagocytic cells. The phagocytic process, however, was unique since the germinal cells are normally surrounded by the Sertoli cell cytoplasm, although they are always separated from each other by their respective plasma membranes and a 70-100 Å intercellular space. During the early stages of phagocytosis, the necrotic germinal cells remained excluded; their plasma membranes then fragmented and disappeared. The cellular debris and low density amorphous material were engulfed by cytoplasmic vacuoles of various sizes in the Sertoli cell cytoplasm. With time, the vacuoles became smaller and less numerous. Dense, single-membrane bodies, pynocytosis vacuoles as well as multilamellar and multivesicular bodies appeared to be frequently associated with the phagocytic vacuoles. Their definite relationships could not be determined, however, with certainty. (Supported by United States Public Health Service grant no. HD 010390-01.)

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