Review article

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Current concepts of reproductive immuno-biology

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During the past ten years, there has been a great deal of progress in elucidating the **essential immunogenetic prerequisites necessary for the primary take or healing in of the blastocyst on the uterine bed**, the cellular interactions with its bed, the development of the resultant fetal organismic graft, and its ultimate and prompt repudiation at term. Contrary to various hypotheses that have been advanced as to the immunologic non-reactivity of the mother during gestation, **females do become immunologically cognizant of the presence in their uteri of genetically alien fetuses. The human conceptus** by virtue of its inherited paternal antigens **fulfills the definition of an allograft** and predicting from all other known graft behavior, should be rejected. Coeval with the evolution of viviparity, Nature has had to solve the problem of nourishing the embryo within the uterus, a paradoxical situation which seems to defy the known laws of transplantation biology. The resultant immunological interrelationships between mother and offspring have been the object of intense research, the results of which demonstrate both beneficial and harmful effects related to the maternal-fetal symbiotic relationship.

Immunology intrudes into nearly every aspect of mammalian reproduction and affords an important means of analyzing or monitoring several of its components. **Choriocarcionoma**, a relatively uncommon tumor in Caucasians has commanded an entirely disporportionate amount of attention in terms of the literature and conference time devoted to it, as much because it is a **highly successful fetal maternal allograft**, as because of its relatively high rate of spontaneous regression, and susceptibility to chemotherapy. However, the most significant advances in understanding the immunological aspects of choriocarcinoma will come from investigations into the immunological relationship between a mother and her normal conceptus.

Mammalian reproductive activity involves a sequence of events that is of particular interest to transplantation and reproduction biologists alike. **The antigen challenge begins with the repeated innoculation of the adult female via the intravaginal route with hundreds of millions of highly specialized, motile and short lived spermatozoa,** suspended in the complex media of seminal plasma. Following fertilization and at some time in its subsequent development, **the zygote must necessarily express paternally inherited transplantation**

Curriculum vitae

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