

EUROBS 01006

### **Plenary Session III – Implantation**

Chairpersons:

H. Bossart, Lausanne, Switzerland

L. Lampé, Debrecen, Hungary

M. Szamatowicz, Białystok, Poland

## **Immunoprotection of implantation**

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The fetus is viewed as a type of allograft surviving in the host that is immunologically hostile. The allo-recognition of fetal antigens by the maternal tissue renders to be beneficial for the development of the fetomaternal interface. The principle process after implantation is a kind of masking the, per se, low grade-antigenicity of the trophoblast through surface coating, blocking antibodies and by a cascade of suppressive effects produced by invaded maternal lymphocytes and macrophages. It is a predominantly local mechanism at the fetomaternal interface which gives rise to the suppression of the maternal immunoreaction. Maternal lymphocytes and macrophages are shown in the decidua. Our investigation has concentrated on the trigger mechanisms for lymphocyte and macrophage proliferation. The exogenous growth factor for T-lymphocytes is interleukin-2. Macrophages participate in the promulgation of a T-cell proliferative response by release of interleukin-2 by T-helper cells. – The theory of immunostimulation is based on the fact that maternal allorecognition of trophoblastic tissue surface by maternal T-lymphocytes induces lymphokines which then promote the rapid development of the fetomaternal interface as an immunologic barrier. – Cellular components of the fetomaternal interface are identified by immunohistological techniques. Factors leading to the appearance of lymphokine receptors in different cellular components of the decidua – maternal blood cells and decidual stroma cells – are described using morphological techniques. In normal early pregnancy mitogenic stimulation does not induce the expression of Interleukin-2 receptors in the decidua, but there is evidence that in early phases of some types of abortion lymphokine receptors are locally acting. An overwhelming proliferation of lymphocytes produces aggressive reactions at the fetomaternal interface. Regional pelvic lymph nodes are involved in the process of immune protection of the implantation.

Supported by Swiss National Funds Berne.