

Role of HLA-G, HLA-E and KIR2DL4 in Pregnancy

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KEYWORDS HLA-E; HLA-G; KIR2DL4; NK cells; Normal pregnancy; recurrent spontaneous abortion

ABSTRACT Mammalian pregnancy has always been considered as immunological enigma. During pregnancy various immunological components at fetomaternal interface contribute to the immunosuppression which may allow semiallogenic fetus to survive. Along with Th2 shift, some other cytokines also play an important role in directing the normal pregnancy. Further modulation of immunological effector cells like T cells, macrophages and NK cells are also involved. Further, the lack of HLA class I expression at fetomaternal interface assists in escaping the fetus from maternal immune response, moreover, simultaneous expression of non classical HLA-G and HLA-E at fetomaternal interface helps in downregulation of NK cells. NK cells interact with HLA-G via their KIR2DL4 receptors. We have reviewed the role of these molecules and how the loss of function in any of these components can lead to immunodysregulation hence leading to rejection of the fetus.