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Investigation of the expression levels of TAM receptor kinases and its ligands in unknown recurrent pregnancy loss

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The role of immunological, genetic and hematological factors in RPL is known. The etiology of unexplained RPL (URPL), which accounts for 50% of RPL, is unknown. Immunological balance is important in the continuity of pregnancy. Inflammation and phagocytosis are regulated via TAM receptor kinase (TYRO3, AXL, MERTK) and its ligands (GAS6 and PROS1). Since we think that TAM receptors and its ligands may be effective in URPL, we hypothesized that "the expression levels of TAM receptor kinases and ligands in URPL differ from normal pregnancies in chorionic villus and decidua". We investigated mRNA and protein expressions of TAM receptor kinases and ligands in samples of URPL, voluntary terminated pregnancy (TP) who didn't have spontaneous pregnancy loss and endometrium (KE) groups. The groups were formed as (1) URPL (n: 5), (2) TP (n: 6) and (3) KE groups (n: 6). TAM receptor kinases and ligand levels of the samples were analyzed by immunohistochemistry, immunoblot and QPCR methods. In healthy pregnancy, increase in TAM receptors, decrease in GAS6 ligand, no significant change was detected in PROS1. Expression of receptors and ligands were increased in URPL. In TP and URPL, TAM receptors and ligands had expressed differently in decidua and chorionic villus. We believe that these receptors limit ligands in gestation and inhibit excessive phagocytotic activity and modulate immunological cells, contributing to the prevention of rejection of the semi-allogenic fetus. Increased receptor and ligand in URPL lead to increasing of phagocytic activity due to death and inhibited inflammation, thus preventing maternal tissue damage.

Biography

Esma Konuk has completed her PhD from Histology and Embryology Department Mediterranean University and works in a Post-doctoral position at Mediterranean University School of Medicine. She has published 7 papers in reputed journals.

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