

ImmunoTools IT-Box-139 Award 2012



Giulia Cantini

PhD Supervisor: Prof. Dr. Michaela Luconi

Dept. Clinical Physiopathology, University of Florence, Italy

ROLE OF THE LOCAL INFLAMMATORY RESPONSE IN UNDERLYING HUMAN ADIPOSE TISSUE DYSFUNCTIONS

Chronic low-grade inflammatory condition is associated with metabolic pathologies such as obesity. However, the role exerted by local inflammation occurring in different fat depots, such as subcutaneous (SAT) versus visceral (VAT) adipose tissue (AT), is still under evaluation. Aim of the present study is to characterize the inflammatory state in adipose tissue from visceral and subcutaneous depots of obese (n=50) versus normoweight (n=30) patients subjected to bariatric or general abdominal surgery at our University Hospital.

Peripheral blood, VAT and SAT biopsies will be collected at surgery for analyses. Cytofluorimetric immunophenotyping of blood cells and stromal vascular fraction obtained from AT will be conducted in parallel with immunohistochemistry of adipose tissue biopsies to reveal the inflammatory components: lymphocytes (CD3, CD45) and their helper (CD4) and cytotoxic (CD8) subpopulations, resident macrophages (CD11b) and their effector M1 component (CD40), Natural Killers (CD56), monocytes (CD14). The mesenchymal stem cells will be sorted from SVF obtained from the adipose tissue biopsies using CD105 marker and the inflammation-induced apoptotic process will be evaluated by using Annexin V external exposure (Annexin V). Adipose tissue dysfunction will be evaluated by immunohistochemistry, measuring adiponectin production and inflammatory-induced apoptosis using Annexin V external exposure (Annexin) in adipose tissue biopsies.

Expected results: This immunohistochemistry and cytofluorimetric combined approach on different adipose tissue depots in obese and lean patients will help us to evaluate the differences at both adipose tissue and peripheral levels of the inflammatory components between obese and normo-weight subjects, thus revealing the role exerted by local inflammation in underlying adipose tissue dysfunctions.

ImmunoTools IT-Box-139 for Giulia Cantini include 100 antibodies

FITC - conjugated anti-human CD1a, CD3, CD4, CD5, CD6, CD7, CD8, CD14, CD15, CD16, CD19, CD21, CD25, CD29, CD35, CD36, CD41a, CD42b, CD45, CD45RA, CD45RB, CD45RO, CD49d, CD53, CD57, CD61, CD63, CD80, CD86, HLA-DR, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

PE - conjugated anti-human CD3, CD4, CD8, CD11b, CD15, CD14, CD18, CD19, CD20, CD21, CD22, CD31, CD33, CD38, CD40, CD45, CD45RB, CD50, CD52, CD56, CD58, CD62p, CD72, CD95, CD105, CD147, CD177, CD235a, HLA-ABC, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

PE/Dy647 -tandem conjugated anti-human CD3, CD4, CD8, CD14, CD19, CD20, CD25, CD54

APC -conjugated anti-human CD2, CD3, CD4, CD8, CD10, CD11a, CD11c, CD14, CD16, CD27, CD37, CD42b, CD44, CD45, CD59, CD62L, CD69, CD71, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

[DETAILS](#)