

Fractalkine as an Inflammatory Marker in Obese Subjects

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Background: Fractalkine (CX3CL1) is known to convey its signals through a single G protein coupled receptor (CX3CR1). It is characterized as a structurally unique chemokine with both membrane-bound and soluble forms. Fractalkine expression has been detected in activated or stressed endothelial, smooth muscle, skeletal muscle, macrophages, neurons, hepatocytes and adipocytes. Inflammation up regulates Fractalkine particularly in adipose tissue of obese individuals.

Aim of Work: This study was designed to assess fractalkine level in obese subjects and its relation with some clinical and laboratory finding It compares basal plasma fractalkine and hs CRP in obese patients (with and without metabolic syndrome) and lean healthy controls.

Subjects and Methods: The study was carried out on 140 subjects; 70 controls and 70 obese subjects 38 with metabolic syndrome and 32 without metabolic syndrome. All were subjected to full history taking, thorough clinical examination, fasting and post prandial blood glucose, HbA1c, lipid profile, fractalkine level and hs CRP.

Results: Serum fractalkine level was significantly raised in obese subjects compared to lean controls (being higher in those with metabolic syndrome). There was a significant positive correlation between serum fractalkine level and BMI, WC, WHR, fasting and post prandial blood glucose, HBA1c, total cholesterol, triglycerides and LDL and it was inversely correlated with HDL while there was no significant correlation between serum fractalkine level and hs CRP.

Conclusions: Fractalkine, like other known adipocyte derived chemokines was increased in obese individuals and associated mainly with metabolic syndrome. This is a step in the way to understand and explain the exact pathogenesis of metabolic syndrome as well as obesity linked complications.

Biography:

Dr. Mohsen Khalid has graduated from faculty of medicine Cairo University in November 1980. He has completed his Master degree in Internal Medicine May 1986, and then he completed his Medical Doctorate in Internal Medicine November 2003. He is a consultant of Diabetes and Endocrinology in the Egyptian National Institute of Diabetes and Endocrinology. He has published more than 20 papers in reputed journals. The research interest of Prof. Dr. Mohsen Khalid is Genetics of Diabetes, diabetic complications and how to assist diabetic patients to live a good life with life style modification and medical treatment.