

RELATIONSHIP OF FETUIN - A AND CORONARY ARTERY CALCIFICATION IN HEMODIALYSIS PATIENTS

ALI ABDULMAJID DYAB ALLAWI¹, JAWAD IBRAHIM RASHEED² &
MOHAMMED YOUNUS NAJI AL ATBEE³

¹Assistant Professor, Consultant Nephrologist and Internist, Bagdad Medical College, Baghdad, Iraq

²Consultant Nephrologist and Internist, Bagdad Medical College, Baghdad, Iraq

³Lecturer, Nephrologist and Internist, Basrah Medical College, Basrah, Iraq

ABSTRACT

Extrasosseous calcification is an almost inevitable process in patients with end stage renal disease (ESRD). Fetuin-A is a hepatocyte-derived serum protein and potent systemic inhibitor of calcification and a negative acute phase reactant. The study was conducted in the nephrology unit, dialysis department/ Baghdad teaching hospital. A total numbers of 60 patients with end stage renal disease already on maintenance hemodialysis and control 30 cases which have normal kidney function, they were examined for serum Fetuin A and Coronary artery calcium scoring (CACS) were performed by a 64-slice CT scan. The total calcium scores of all patients and control cases were calculated using dedicated software. Fetuin A has been tested by quantitative solid phase enzyme immunometric assay (ELISA) designed for the determination of Fetuin A in human serum, using DiaMetra kit. This case control study that enrolled 60 patients with end stage renal disease already on maintenance hemodialysis were included in the study, 25 males and 35 females. The prevalence of hypertension, diabetes mellitus, anemia and low serum albumin were more among studied patients as compared to control group. There was low serum Fetuin A level in patients with chronic renal failure on maintenance hemodialysis as compared to control group, the difference were statistically significant, ($p < 0.0001$). There were also low serum Fetuin A level in studies patients with chronic renal failure on maintenance hemodialysis with higher coronary artery calcium score 11-400 and >400 as compared to control group, the difference were statistically significant, ($p < 0.0001$). This is signified that the decrement in serum Fetuin A level lead to more calcification in coronary arteries. Negative relationship between Fetuin-A levels and total coronary artery calcification scores. Fetuin A level is decreased in patients with chronic renal failure with cardiovascular risk factors as male, age older than 55 years, hypertension, diabetes and anemia.

KEYWORDS: End Stage Renal Disease (EsrD), Solid Phase Enzyme Immunometric Assay (Elisa) and Prevalence of Hypertension