**PRE-DIABETES IN HYPERTENSIVE PATIENTS WITH VITAMIN D DEFICIENCY**

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Objectives: To evaluate the presence of pre-diabetes in hypertensive patients with vitamin D deficiency (VDD).Background: Studies have established an association between VDD and type 2 diabetes. However, the relationship between VDD and pre-diabetes in patients with hypertension has not been well studied.

Methods: HbA1c levels in 110 consecutive non-diabetic hypertensive patients with VDD were studied. Vitamin D was measured as serum 25-hydroxy vitamin D by the DiaSorin ImmunoChemiluminoMetric Assay. It was classified as follows: 30 ng/ml and above: normal; 20 to 29 ng/ml: mild deficiency (MID); 10 to 19 ng/mL: moderate deficiency (MOD); 9 ng/ml or less: severe deficiency (SED). HBA1c of 5.7% - 6.4% (39 - 46 mmol/mol) was defined as pre-diabetes, according to the American Diabetic Association criteria.

Results: Of the 110 [63 (57%) male; 47 (43%) female] hypertensive patients with VDD, 78 (70%) [42 (54%) male; 36(46%) female] had HbA1c levels between 5.7% and 6.4%. Their ages ranged from 28 to 95 years. Of the 78, 32(42%) had MID, 23(29%) had MOD, and 23(29%) had SED. Of the 40(36%) with MID, 32(80%) had pre-diabetes. Of the 55(50%) with MOD, 33(60%) had pre-diabetes and of the 15(14%) with SED, 13(87%) had pre-diabetes.

Conclusions: We found an extremely high incidence of pre-diabetes in hypertensive patients with Vitamin D deficiency. The simultaneous presence of both may substantially increase the morbidity and mortality in patients with hypertension. Further studies are needed to evaluate the extent of clinical benefit from vitamin D supplementation in deficient patients with both hypertension and pre-diabetes.