P3.14: ASSOCIATION OF CAROTID INTIMA-MEDIA THICKNESS, ENDOTHELIAL FUNCTION AND AORTIC STIFFNESS WITH CARDIOVASCULAR EVENTS IN METABOLIC SYNDROME PATIENTS

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atherosclerotic burden and PWV than (C) and also the clinical score of risk (FRS) and the severity of vascular disease score. DBT2 and MS were almost similar. Conclusion: The progression of vascular disease from the early MS to DBT2 could intensify the high degree of complications in DBT2. These findings suggest the usefulness of vascular evaluation of MS patients to guide and intensify preventive measures to improve the prognosis of DBT2 patients.

P3.10 REGIONAL CAROTID MECHANICS IS SIGNIFICANTLY IMPAIRED IN PATIENTS ON HEMODIALYSIS

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Objective: To study the correlation between carotid mechanics, carotid stiffness and carotid parameters in patients on hemodialysis (kidney failure) and healthy subjects.

Methods: Study population consisted of 12 patients on hemodialysis (aged 24-73, median = 48) and 24 healthy controls of the same age and gender. All subjects underwent comprehensive transthoracic echocardiography and ultrasound carotid exams. Peak carotid longitudinal, circumferential strains and longitudinal and radial displacement were measured using two-dimensional Speckle-Tracking Imaging. Carotid stiffness was calculated using wall-tracking software.

Results: Univariate analysis revealed direct correlations between carotid strains and displacement and parameters of LV diastolic function and carotid stiffness (r = 0.44 between longitudinal strain (ST_l) and e' (interventricular septum), r = 0.27 between ST_l and carotid_PWV, r = 0.47 between ST_l and Intima_Media_Thickness, p < 0.05) and correlations between LV diastolic function and carotid stiffness (r = -0.51 between carotid_PWV and e'). These correlations were confirmed by multiple linear regression after adjusting for potential confounders (age, blood pressure, gender, weight, etc.). Analysis showed significant decrease in carotid strains and displacements and increase in carotid stiffness in patients on hemodialysis (carotid_PWV = 8.9 and 6.9 m/s, ST_l = 4.6 and 6.7 in dialysis patients and healthy subjects accordingly, p < 0.05). Multivariate modeling confirmed that the hemodialysis is an independent determinant of regional carotid mechanics.

Conclusions: This study demonstrated that regional carotid mechanics is related to heart diastolic function and carotid stiffness. Development of atherosclerosis impairs carotid mechanics. Key parameters of carotid mechanics are significantly decreased in patients on hemodialysis. Measurement of these parameters is important because their diversions may serve as an early marker of cardiovascular disease.