

THE RELATIONSHIP BETWEEN ANTHROPOMETRIC PARAMETERS AND VULNERABILITY OF CAROTID ATHEROSCLEROTIC PLAQUES IN TYPE 2 DIABETES MELLITUS

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The primary histopathological feature of diabetic vascular complications is the formation of atherosclerotic plaques.

Ultrasound examination provides not only a quantitative analysis of the plaque, but also the qualitative analysis of plaque vulnerability.

Body fat distribution highly correlates with certain pathologies and an evaluation of this distribution is essential in the estimation of health risks. Waist circumference and WHR index (Waist-Hip Ratio) are highly useful methods in both adipose tissue distribution and cardiovascular and metabolic risk assessment in individual patients, as well as population-wide.

The aim of our study was the assessment of incidence, distribution and vulnerability of carotid atherosclerotic plaques in patients with type 2 diabetes versus healthy controls, and their relation to adipose tissue distribution.

The study involved 101 persons – 51 type 2 diabetics and 50 control patients.

Atherosclerotic plaques were present in 100% of diabetics vs. 28.12% of control subjects. Vulnerable plaques were found in 47.06% of type 2 diabetes patients and in 25.6% of controls. The results of Mann-Whitney's test show a highly significant difference in the incidence of plaques and plaque instability between the two groups.

The mean waist circumference was significantly higher in type 2 diabetic patients compared to controls (96.53 ± 11.51 cm vs. 87.97 ± 12.15 cm, $p < 0.01$).

The mean waist/hip ratio was significantly higher ($p < 0.01$) in patients with type 2 diabetes (0.93 ± 0.08). The waist circumference and waist/hip ratio significantly correlated with the atherosclerotic plaque instability ($p = 0.54$, $p < 0.0001$).

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