COMMENT ON PARENTE ET AL.

The Relationship Between Body Fat Distribution and Nonalcoholic Fatty Liver in Adults With Type 1 Diabetes. Diabetes Care 2021;44:1706–1713

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With great interest we read the recent study by Parente et al. (1), in which they report a clear relationship between body fat distribution and nonalcoholic fatty liver (NAFL) in patients with type 1 diabetes. Visceral adipose tissue as measured with DXA was independently associated with NAFL (MRI assessed prevalence, 11.6%), whereas peripheral and total body fat were not. In addition, waist-to-height-ratio (WHtR) was more strongly associated with NAFL than BMI. Based on this, they state that WHtR might be an easy and inexpensive tool to screen individuals with type 1 diabetes at higher risk for NAFL.

Here, we would like to present preliminary results from our own study, which are comparable to the findings of Parente et al. (1) and support the idea of using clinical markers of visceral fat as a screening tool for NAFL in patients with type 1 diabetes.

We performed a NAFL study in 150 patients with type 1 diabetes. Patient characteristics were comparable to those of Parente et al. (1): mean age, 47 ± 14 years; male, 55%; diabetes duration, 25 ± 14 years; and median BMI, 25 kg/m². We assessed NAFL by transient elastography controlled attenuation parameter (CAP) (CAP cutoff ≥248 dB/m) (2) and found a NAFL prevalence of 34% (n = 51). In the total group, central obesity (WHtR ≥0.5) was present in 85% of patients, in the NAFL group in as much as 88.2%, and in the non-NAFL group in only 44.4%. The area under the curve (AUC) of the receiver operating characteristic curve of the association between WHtR and NAFL was 0.76 (95% CI 0.68–0.84), and that of the association of BMI and NAFL was 0.71 (95% CI 0.62–0.80). The difference in AUC of WHtR and BMI was borderline statistically significant (P = 0.05, calculated by permutation analysis [3]). We found an optimal (Youden) cutoff value for WHtR of 0.51, with a sensitivity of 86% and specificity of 62%. For BMI, the optimal cutoff value was 25.2 kg/m², with a sensitivity of 72% and specificity of 67%.

To extend the conclusion of Parente et al. (1) that easy and low-cost markers of visceral fat might help identify patients at need for further hepatic imaging, we also assessed the AUC for waist circumference (WC), measured at the level of the iliac crest. The AUC of WC (0.80, 95% CI 0.71–0.88) was larger than that of BMI (P < 0.001) and that of WHtR (P = 0.06). For WC, the optimal cutoff for male patients was 92.5 cm (sensitivity, 87%; specificity 69%), and for female patients it was 94.5 cm (sensitivity, 65%; specificity, 72%).

In conclusion, we endorse that clinical markers of visceral adipose tissue (WHtR and WC) are strongly associated with NAFL in patients with type 1 diabetes and might indeed be of help in choosing wisely in clinical practice to identify patients in need of further hepatic imaging.

References
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