Types of Bariatric Surgery and Fat Reduction by Ultrasound Evaluation

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To the editor:

I read with great interest the article by Mizrahi et al. [1] that the authors compared visceral fat (VF) and subcutaneous fat (SCF) reduction measured by ultrasonography (US) after three types of bariatric surgery in 39 obese patients in a 1-year follow-up study. The authors concluded that laparoscopic sleeve gastrectomy and laparoscopic Roux-En-Y gastric bypass showed better preferential and overall VF reduction than laparoscopic adjustable gastric bandin by US. I have some queries on their study outcome.

First, there is a report that the combination of body mass index (BMI) and waist circumference (WC) has a power predicting VF and cardio-metabolic risk [2]. Mizrahi et al. made an emphasis on the advantage of VF reduction by bariatric surgery, and data on WC reduction would be informative for mutual comparison among VF, SCF, and WC.

Secondly, the authors adopted a univariate analysis, partly because of the limitation in the number of samples. I previously mentioned critical view on advantage of bariatric surgery for patients with type 2 diabetes mellitus [3], with special emphasis on study design, ethnic difference, and present history of metabolic disease. In addition, sex and age seem to be important factors for fat reduction. To confirm the advantage of specific bariatric surgery, randomized-controlled trial seems indispensable.

Finally, measures of VF and SCF by US should be handled with caution. US is a simple technique to measure visceral adipose tissue (VAT) [4, 5], but inter-individual difference of US measures exists [6]. Anyway, advantage of VAT reduction by bariatric surgery should be determined by adjusting several confounding variables for their analysis.

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