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Unmasking Cushing's Syndrome in Obesity

Selective screening of persons with metabolically unhealthy obesity (MUO) for Cushing's syndrome is more likely to increase the probability of diagnosing Cushing syndrome[1].

A team of endocrinologists from Turkey retrospectively analyzed data from 1,008 patients with obesity who underwent screening for Cushing's syndrome at an endocrinology outpatient clinic between December 2020 and June 2022. Their mean age was 40 years, and the majority were female (~83%). The median BMI was 43.7 kg/m^2. Based on the presence of comorbid conditions, 779 were categorized as MUO; 23% had diabetes, 29% had prediabetes, ~25% had hypertension, and 78% had dyslipidemia; less than 5% had coronary artery disease. The remaining 229 had metabolically healthy obesity (MHO). The 1 mg overnight dexamethasone-suppression test (DST) was utilized to screen for Cushing's syndrome. A serum cortisol level <1.8 μg/dL indicated normal suppression.

The cortisol levels following the 1 mg DST were significantly higher in those with MUO vis-à-vis MHO. About 1.2% (n = 12) patients within the entire study group had a cortisol level of ≥1.8 following the 1 mg DST. Eleven of the 12 patients with a cortisol level of ≥1.8 had MUO. This group also had higher fasting plasma glucose, HbA1c, triglyceride, and low-density lipoprotein cholesterol levels and lower high-density lipoprotein cholesterol levels. Hypercortisolism was definitively diagnosed in 2 patients with an ensuing overall prevalence of 0.2%. The specificity of the 1 mg DST in screening for Cushing's syndrome was 99%, while the sensitivity was 100%.

This study highlights two main findings. Firstly, it demonstrates the high specificity of the 1 mg DST as a screening test for Cushing's syndrome, including in patients with obesity. This has clinical relevance since there is considerable overlap of signs and symptoms between the two conditions. Secondly, it reaffirms the low prevalence of Cushing's syndrome in patients with obesity, which per se is a rare condition. Hence, rather than screening all individuals with obesity, it would be more prudent to screen those with the MUO phenotype.

Reference

1. Hepsen S, Gul U, Bostan H, Akhanli P, Sencar ME, Kizilgul M, et al. Cushing's syndrome screening with the 1-mg dexamethasone suppression test in metabolically healthy and unhealthy obesity phenotypes. Int J Obes (Lond). 2024;48(11):1620-4.

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