What are the determinants associated with fasting hyperglucagonemia in type 2 diabetes?

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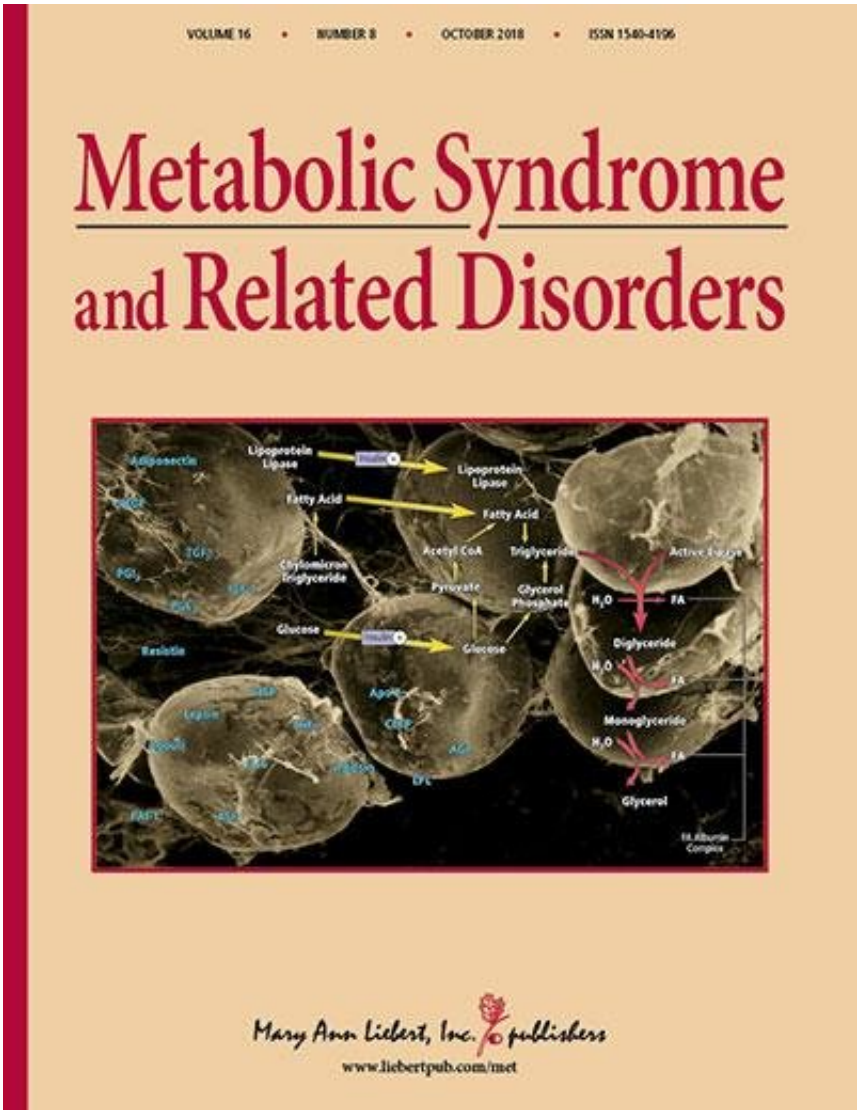

Credit: Mary Ann Liebert, Inc., publishers

A new study examined the relationship between fasting hyperglucagonemia—which can negatively affect glucose metabolism in patients with type 2 diabetes (T2D)—and several biochemical and glycemic factors in subjects with T2D or in a nondiabetic control group. The study results, which help to elucidate the mechanisms that underlie fasting hyperglucagonemia, are published in *Metabolic Syndrome and Related Disorders*.

Filip Knop, Steno Diabetes Center Copenhagen, University of Copenhagen, and Faculty of Health and Medical Sciences, University of Copenhagen, Denmark, and a team of researchers coauthored the article entitled "Determinants of Fasting Hyperglucagonemia in Patients with Type 2 Diabetes and Non-Diabetic Control Subjects." The researchers looked at a broad range of factors including body mass index, fasting plasma glucose, hemoglobin A1c, insulin concentrations, and waist-to hip ratio (WHR).

Patients with T2D had significantly higher fasting plasma glucagon concentrations. Further analysis showed that important determining factors within this T2D group were WHR as well as glycemic control and fasting plasma insulin concentrations. These findings suggest a role for visceral fat deposition in increased fasting plasma glucagon concentrations. The researchers report that WHR is a determinant of fasting hyperglucagonemia in both patients with T2D and nondiabetic subjects.

"Glucagon is the neglected glucoregulatory hormone in type 2 diabetes—mainly because its dysregulation is considered to be secondary to defects in insulin secretion. There is increasing evidence that abnormal glucagon secretion occurs early in the pathogenesis of diabetes. This paper together with a few others suggests that defects in insulin action

contribute to this dysregulation," says Dr. Adrian Vella, Editor-in-Chief of *Metabolic Syndrome and Related Disorders* and Professor, Mayo Clinic College of Medicine, Rochester, MN.

More information: Mia Demant et al, Determinants of Fasting Hyperglucagonemia in Patients with Type 2 Diabetes and Nondiabetic Control Subjects, *Metabolic Syndrome and Related Disorders* (2018). DOI: 10.1089/met.2018.0066