

respectively. The percentage of glucose readings below target (<4mmol/L) improved from 8%, 58%, 4%, and 47% to 1%, 39%, 0%, and 0%, respectively. The mean glucose was 5.9, 3.9, 7.8, and 4.4 mmol/L, which improved to 10.9, 5.0, 7.9, and 7.5 mmol/L respectively. The lowest average glucose was nocturnal (22:00-06:00) (5.8, 3.3, 6.5, and 4.1 mmol/L) which showed significant improvement after adjustment of medications (11.3, 4.2, 7.2, and 5.7 mmol/L). At least 2 of these 4 patients had well documented impaired awareness of hypoglycaemia based on diminished classical adrenergic symptoms. Among the two patients who had only one 2-week FGS assessment, one went on to have curative successful surgery and the second patient who had Hirata's syndrome did not have significant detectable hypoglycaemia.

Conclusion:

FGS is a convenient tool that may be used to monitor and adjust therapy in patients with endogenous hyperinsulinism. In carefully selected patients, FGS may allow domiciliary glycaemic management avoiding the need for hospital admission for monitoring purposes.

References:

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Thyroid

THYROID AUTOIMMUNITY AND BENIGN THYROID DISEASE

Thyroid Hormone Use and Survival among Older Adults - Longitudinal Analysis of the Baltimore Longitudinal Study of Aging (BLSA)

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OR18-05

Abstract: Introduction: Thyrotropin (TSH) levels on average are higher and vary more widely among older adults.¹ Large meta-analyses and treatment trials for isolated elevated TSH in older adults did not demonstrate harm from no treatment or benefit from treatment in this population.² Isolated, elevated TSH can result from adaptations to aging, rather than primary thyroid disease, suggesting that thyroid hormone treatment could actually cause harm.³

Objective: To determine if there is a survival effect from thyroid hormone treatment in adults aged 65+.

Methodology: Thyroid functional status and thyroid hormone exposure were analyzed for 1,258 participants of the BLSA aged 65+ through death or end of follow up. We analyzed exposures by visit and also compared survival between individuals with consistently elevated, euthyroid or low TSH both on and off of therapy. Incident rate ratios (IRR)

were calculated using time-dependent Poisson regression models. Covariates included age, sex, race, walking index (measure of physical function), self-rated health (SF-12), body mass index (BMI), smoking and comorbidity score.

Results: Average follow-up was 9 years, with 169 deaths over the study period. The cohort comprised 49.5% women, with average age in the study being 78 years (SD ±8.2). Thyroid hormone use trended towards harm analyzed at each visit with an IRR=1.40 (95% CI 0.93–2.12) after adjusting for other covariates. Among 'treated-to-target' versus euthyroid individuals, thyroid hormone use was associated with a significantly increased mortality rate with an IRR=1.80 (95% CI 1.09–2.96) in multivariable analysis.

Conclusion: Thyroid hormone replacement among older adults, even when treated-to-target, is associated with a significantly increased mortality risk compared to euthyroid individuals with no history of thyroid hormone exposure. This suggests that treating isolated elevated TSH when changes are aging adaptations rather than primary thyroid disease could adversely affect health by altering key homeostatic adaptation. We recommend clinicians consider the underlying physiology of aging and employ age specific reference ranges when deciding on treatment for elevated TSH in older adults.⁴

References 1. Surks et al., *J Clin Endo. Met.* 2007;92(12):4575–4582. 2. Stott et al., *NEJM.* 2017;376(26):2534–2544. 3. Mammen et al., *Thyroid.* 2017;27(11):1370–1377. 4. Surks et al., *J Clin Endo. Met.* 2010;95(2):496-502 Unless otherwise noted, all abstracts presented at ENDO are embargoed until the date and time of presentation. For oral presentations, the abstracts are embargoed until the session begins. Abstracts presented at a news conference are embargoed until the date and time of the news conference. The Endocrine Society reserves the right to lift the embargo on specific abstracts that are selected for promotion prior to or during ENDO.

Diabetes Mellitus and Glucose Metabolism

DIABETES COMPLICATIONS II

Insulin Autoimmune Syndrome as a Rare Cause of Hypoglycemia

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MON-686

Background:

Insulin Autoimmune Syndrome (IAS) or Hirata disease is reported more in Asians. We report the case of a patient with acute onset hypoglycemia secondary to IAS.

Case Presentation:

A 64 year old ARAB male physician presented with 2 weeks history of episodic hypoglycaemia with blood glucose (BG) 40–60 mg/dl, unrelated to food and occurring throughout the day. His attacks were associated with sweating, dizziness and palpitations, relieved by intake of juice. He reported 3 kg weight gain since the beginning of his symptoms.

Past medical history revealed hypertension, past HCV infection with negative PCR and history of allergy to sulfa drugs. His medications included bisoprolol 2.5 mg daily.

Physical exam showed no acanthosis nigricans. Laboratory investigations: Normal hepatic, renal and thyroid