

was 57.9 ± 14.9 years. 270 (18.8%) suffered multiple comorbidities. 559 (46.3%) of T2DM vs 22 (9.5%) of T1DM were not familiar with the type of their diabetes. 883 (73.2%) of T2DM were on combination therapy. There was a significant difference between T1DM and T2DM in health education received from the treating physician 168 (72.7%) vs 574 (47.6%) and from a dietician 165 (71.4%) vs 613 (50.8%) ($p < 0.0001$), but education received from diabetes educators was not significantly different 189 (81.8%) vs 936 (77.6%) ($p = 0.15$). Patients who followed diet advice were only 55 (23.8%) vs 43 (36.4%), respectively, ($p = 0.0002$). 1191 (82.8%) reported fasting the full month, 162 (11.3%) were advised by their physicians to not fast. Patients who did not fast full Ramadan were 247 (17.2%), one third 92 (37.25%) of them based on physician advice with a compliance rate of (56.8%). Blood sugar was not well controlled before Ramadan and did not change significantly after Ramadan with a mean HbA1c (8.41 ± 2.0 and 8.40 ± 2.1) respectively, p -value 0.53. Multivariate analyses revealed that being on insulin, and prior hospitalization for diabetes were significant predictors of compliance with physicians advice related to fasting Ramadan [(OR 4.5, 95% CI, 1.7 - 12.2, p -value 0.003), (2.3, 95% CI, 1.2 - 5.1, p -value 0.048)] respectively, while lack of receiving education, type of diabetes, and degree of glycemic control did not predict compliance with statistical significance [(OR 1.9, 95% CI, 0.8 - 4.6, p -value 1.5), (1.06, 95% CI, 0.4 - 2.6, p -value 0.89), (1.3, 95% CI, 0.5 - 3.5, p -value 0.56)] respectively. Majority of patients were aware of a religious "Fatwa" on fasting with diabetes but their understanding of it varied.

Conclusion: The study shows low level of patient awareness and compliance to health providers advice. Results indicate prior hospitalization and being on insulin treatment as predictors of patient compliance. This signifies the need for better structured diabetes and fasting education programs. 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.

Adrenal

ADRENAL - HYPERTENSION

Aldosterone Biosynthesis Among Patients with Overt or Subclinical Cushing's Syndrome

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Background: Hypertension is one of the most common and distinguishing clinical features of patients with overt Cushing's syndrome (CS) and subclinical Cushing's syndrome (SCS). Although hypertension can be triggered by excess cortisol levels, it is unclear whether the cortisol is sufficient to explain the hypertension among these diseases

(particularly SCS in which cortisol is slightly elevated) indicating the potential contribution of aldosterone to the elevated blood pressure. In this study, we aimed to examine the aldosterone biosynthesis among patients with CS or SCS.

Methods: We conducted the prospective study enrolling 90 patients (21 CS and 69 SCS) from 2016 to 2019 at Yokohama Rosai Hospital. We diagnosed patients with CS when they showed clinical features of CS and serum cortisol levels (F) after 1 mg dexamethasone (1-mg DST) was $>5 \mu\text{g/dl}$. SCS was defined as F after 1-mg DST was $>1.8 \mu\text{g/dl}$. For patients who are considered to be appropriate for adrenalectomy, we performed the segment-selective ACTH-loading adrenal venous sampling (AVS) to find the laterality of cortisol producing adenoma (CPA). The resolution of hypertension was assessed 1-year after the adrenalectomy.

Results: The median [interquartile range] age was 51 [46–62] years and males were 28%. Hypertension was observed in 21 (100%) CS and 58 (84%) SCS patients. Median F after 1mg-DST were 16.4 [14.3–18.7] mg/dl and 5.1 [3.4–7.5] mg/dl among CS and SCS patients, respectively. Median plasma renin activity among CS and SCS patients were 0.7 [0.4–1.3] ng/ml/h and 0.5 [0.2–0.9] ng/ml/h, respectively. Median plasma aldosterone concentrations (PAC) among CS and SCS patients were 8.3 [7.2–9.8] ng/dl and 9.3 [7.2–17.0] ng/dl at baseline, rising to 24.7 [18.6–32.3] ng/dl and 32.9 [25.8–48.3] ng/dl after ACTH stimulation. During the AVS, all SCS cases with hypertension showed the aldosterone excess (i.e. effluent aldosterone concentrations ≥ 1400 ng/dl after ACTH stimulation) in at least one adrenal segmental tributary vein. All CS cases showed the hypertension resolution after the resection of CPA except one case showing aldosterone excess on the opposite side of CPA. Among 39 SCS cases who underwent adrenalectomy, hypertension remained in 10 cases, and all of them showed aldosterone excess on the opposite side of CPA.

Conclusion: We found that aldosterone was likely to be elevated (or hyper-responsive to ACTH) among CS or SCS patients with hypertension. The proportion of the hypertension resolution after the CPA resection was lower when patients showed aldosterone excess on the opposite side of CPA. These findings indicate that elevated aldosterone may contribute to the high prevalence of hypertension and its resolution rate after adrenalectomy for patients with CPA. Further studies are needed to examine the clinical effectiveness of the intervention targeting aldosterone among patients with CS and SCS.

Diabetes Mellitus and Glucose Metabolism

CLINICAL AND TRANSLATIONAL GLUCOSE METABOLISM AND DIABETES

Predictors of Complications with Fasting the Holy Month of Ramadan in Patients with Diabetes

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