immune phenotyping and cardiovascular MRI. Women without prior CVD or diabetes were eligible.
Results: Women were similar in age and BMI (WWH vs. women without HIV: 51 ± 5 vs. 52 ± 6 years, P=0.79 and 32 ± 8 vs. 31 ± 7 kg/m2, P=0.71). There was no significant between-group difference in the percentage of women without menses in the past year (p=0.52) or in the percentage of women with undetectable levels of antimullerian hormone (p=0.71). No women in either group were on estrogen and/or progesterone for treatment of menopausal symptoms. Hot flash frequency (days per week with hot flashes) was higher among WWH versus women without HIV (median [IQR], 7.0 [1.3, 7.0] vs. 0.8 [0.0, 2.1], p=0.01). In sensitivity analyses excluding either women with menses in the past year or with detectable AMH, WWH still reported a significantly higher number of days per week with hot flashes (7.0 [6.3, 7.0] vs. 0.4 [0.0, 2.3], p=0.007, and 7.0 [2.4, 7.0] vs. 0.8 [0.0, 2.1], p=0.01, respectively). Among WWH experiencing (vs. not experiencing) hot flashes in the past year, longer duration of ART use was noted (21.2 [16.0, 22.7] vs. 9.3 [3.3, 16.0] years, p=0.03). Among the entire cohort and among WWH, women with more than one hot flash per day had higher levels of soluble CD14, a marker of monocyte activation, compared to women with one or fewer hot flash per day (p=0.004 and p=0.02, respectively). Among WWH and a history of hot flashes, years since onset of hot flashes related to cardiovascular MRI-derived measures of subclinical pathology. Specifically, years since onset of hot flashes related directly to myocardial steatosis (intramyocardial triglyceride content; ρ=0.80, p=0.02) and inversely to diastolic function (left atrial passive ejection fraction; ρ=−0.70, p=0.03).
Conclusions: WWH experienced a higher frequency of hot flashes compared to women without HIV. Among WWH, hot flash symptomatology related to systemic immune activation and to cardiovascular MRI-derived measures of CVD risk. Additional research is required to improve understanding of mechanisms underlying these relationships and determine if hot flashes are a sex-specific risk factor for CVD in WWH.

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Mild Autonomous Cortisol Secretion in Primary Aldosteronism Enhances Renal and Hemorrhagic Cerebrovascular Complications

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Background: It is well known that primary aldosteronism (PA) is often associated with renal dysfunction and cardiovascular events (CVEs). However, the synergic effect of mild autonomous cortisol secretion (MACS) on the co-morbidities among PA has not been clarified yet. Thus, we retrospectively assessed whether the presence of MACS in PA patients with adrenal tumor, which may have MACS, to enhance the risk of the complications using a large Japanese multicenter database.
Methods: We enrolled patients with both confirmed PA and obvious adrenal tumor (diameter > 1 cm) on computed tomography. The subtype of PA was diagnosed based on the results of adrenal venous sampling with ACTH stimulation. A total of 575 study subjects were stratified into two groups according to 1-mg dexamethasone suppression test (DST) results (cut-off post-DST serum cortisol 1.8 μg/dL): MACS group (N=174, 30.2%) and non-MACS group (N=401, 69.8%). Decreased estimated glomerular filtration rate (eGFR) was defined as <60 ml/min per 1.73m^2.
Results: The percentage of unilateral PA between the MACS and non-MACS group was equivalent (50.0% vs. 48.1%). Prevalence of decreased eGFR in the MACS group was higher than in the non-MACS group [odds ratio (OR) 1.91, 95% confidence interval (95% CI) 1.20–3.04, P=0.006]. Conversely, prevalence of MACS was higher in patients with decreased eGFR than those without decreased eGFR (42.7% vs 28.0%, P=0.008). Proteinuria was deteriorated with the increase in post-DST serum cortisol concentration as well as the basal plasma aldosterone concentration (PAC) (P=0.028 and P<0.001, respectively), although PAC but not the presence of MACS was selected as an independent factor related with decreased eGFR. Prevalence of cerebral hemorrhage in the MACS group was higher than the non-MACS group. (OR 5.35, 95%CI 1.83–15.6, P=0.002). We found that MACS was the only significant factor which increased the odds of developing cerebral hemorrhage (OR 9.13, 95%CI 2.15–38.90, P=0.003). Prevalence of other CVEs between the two groups was similar. Regardless of the PA subtype, complication rate of decreased eGFR and cerebral bleeding in the MACS group were significantly or tend to be higher than non-MACS group.
Conclusion: Our date strongly suggested that co-secretion of cortisol in PA directly and/or indirectly increase renal and cerebrovascular comorbidities. Given that MACS is common in PA, endocrinological testing with DST is recommended in PA patients, especially those with adrenal tumor on imaging. (Supported by Research Grants of AMED:JP17ek0109122, JP20ek0109352; National Center for Global Health and Medicine:27–1402, 30–1008), and Ministry of Health, Labour, and Welfare, Japan (046).

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Modulation of Calcium Signaling by Chemogenetic Tools to Elucidate the Pathogenesis of Primary Aldosteronism