

distal left femoral vein extending to the popliteal vein and was started on xarelto, but he developed pleuritic chest pain and dyspnea in 48 hours. CT scan confirmed a pulmonary embolism and patient was treated with heparin drip. Two days following heparin drip patient developed acute bilateral flank pain and hypotension; and CT abdomen showed 2 masses replacing the adrenal glands that were concerning for hematomas. Laboratory results: serum potassium 4.9 mmol/L, serum cortisol 3.3 mcg/dL (reference 7.2–19.4), ACTH level 319 pg/mL (reference 7–53), aldosterone <1.0 ng/dL (reference 0.0–3.0), and plasma renin activity 7.17 ng/ml/hr (reference, 0.15–3.95). Serum antiphospholipid antibody testing showed cardiolipin Ab Ig 140 GPL/mL (reference 0–14), cardiolipin Ab IgM 100 MPL/mL (reference 0–12) and cardiolipin Ab IgA >150 APL/mL (reference 0–11). Further testing showed beta-2 glycoprotein 1 Ab IgG 103 GPI units (reference 1–20), IgM 94 GPI units (reference 0–32), and IgA 150 GPI units (reference 0–25). His hypotension dramatically improved upon administration of IV hydrocortisone and the abdominal pain resolved in 3 days. Upon discharge he was placed on hydrocortisone and continued warfarin therapy. At a 6-week follow-up visit, patient was asymptomatic. Additional lab tests revealed normal plasma renin activity and aldosterone levels. Two years later an ACTH stimulation test confirmed persistent AI. Basal plasma ACTH level was 230 pg/mL (ref 5–50). Additionally plasma renin activity and serum aldosterone levels indicated no mineralocorticoid deficiency. An adrenal CT scan revealed significant long-term interval decrease in size of bilateral adrenals with hypo-attenuating focus in the right adrenal gland, favored to represent post hemorrhage changes without convincing evidence of underlying neoplasm especially given decrease in size compared to 4-years prior. Presently, patient is doing well on hydrocortisone and warfarin treatment. **Conclusion:** In all cases of adrenal hemorrhage and infarction with unknown etiology, screening with lupus anticoagulant and anticardiolipin antibodies is imperative. Recognition of this high mortality condition will allow for appropriate screening and confirmatory tests leading to prompt diagnosis and timely management.

Diabetes Mellitus and Glucose Metabolism

CLINICAL AND TRANSLATIONAL STUDIES IN DIABETES

Diabetes Risk for Non-Obese Subjects in a Japanese Population

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[Background] Obesity is a major risk factor of developing diabetes and cardiovascular diseases, though not all obese people develop these conditions and diseases. Because Asian populations have a lower frequency of obesity in comparison

with populations in the United States and Europe, it is important to detect risk factors for developing diabetes in non-obese Japanese populations. [Objectives] To examine risk factors for diabetes, and to consider countermeasures against diabetes development in Japanese populations, especially non-obese individuals. [Methods] This study examined 1,794 individuals (514 males and 1,280 females) who participated in both Adult Health Study health examinations on A-bomb survivors and their controls in Hiroshima and Nagasaki between 1994–1996 (baseline) and 2008–2011. They were aged 48–79 years and had not been diagnosed with diabetes at baseline or cancer. Obesity was defined as a BMI of 23 kg/m² or greater based on the WHO recommendation for Asians. In accordance with AHA/NHLBI criteria for diagnosis of metabolic syndrome, we defined a diagnosis of metabolic abnormality as having at least two of the criteria other than abdominal obesity. The diagnostic criteria for diabetes were a fasting blood glucose ≥ 126 mg/dL, a non-fasting blood glucose ≥ 200 mg/dL, a self-report of a diabetes diagnosis, or the initiation of medical treatment for diabetes during the follow-up period. We compared presences of fatty liver and metabolic abnormality, BMI at baseline, and changes of body weight from baseline between the group that developed diabetes and the group did not over a 15-year follow-up. [Results] During the follow-up period until 2001, 66 (7.0%) individuals and 127 individuals (14.8%) from the non-obese and obese groups, respectively, developed diabetes. BMI at baseline and presences of fatty liver and metabolic abnormality were associated with developing diabetes in both non-obese and obese groups. Changes in body weight from baseline were not a significant risk factor of diabetes in this study. Furthermore, we analyzed the association between diabetes risk and appendicular lean mass/height² (ALM/H²) and handgrip strength based on the diagnostic criteria for sarcopenia among 676 subjects with information of these measurements at baseline. Occurrences of low ALM/H² were associated with developing diabetes, but an association between low handgrip strength and developing diabetes was not observed. [Conclusion] Regardless of whether obesity was observed or not, presences of metabolic abnormality and fatty liver were significant risk factors. Increased risk of developing diabetes was observed among non-obese individuals with suspected sarcopenia. This study suggests that maintenance of muscle mass may be an effective countermeasure to reduce the risk of developing diabetes.

Adrenal

ADRENAL CASE REPORTS II

Primary Aldosteronism and Klinefelter's Syndrome: Two Cases

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