Persistent Hypertension in a Young Female: A Case of Conn’s Syndrome

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Introduction

Primary aldosteronism is a secondary cause of hypertension that is sometimes missed due to inadequate evaluation. Primary aldosteronism should be suspected in young patients with resistant hypertension and hypokalemia. Although many patients still require antihypertensive post-surgery, their blood pressure is much easily controlled and sometimes even cured once the diagnosis is made. We are presenting a case of young woman who had persistent hypertension for approximately seven years before the diagnosis of Conn’s syndrome was made.

Case Presentation

24 year old African American woman who presented to the Emergency department from the Endocrine clinic with the chief complaint of “low potassium”. Our patient was sent to the Endocrine Clinic by a free clinic provider for persistent hypertension and hypokalemia. Her blood pressure at presentation was 159/99 and her potassium level was 1.5 mEq/L. Despite these findings, she was remarkably asymptomatic at her admit. She did report rare shortness of breath at night that she described as mild and without wheezes. She denied nausea, vomiting, muscle cramps, chest pain, diaphoresis, head ache, visual disturbances abdominal pain or dizziness. Her physical exam was essentially benign. Past medical history was significant for hypertension since her teens, mild intermittent asthma and premature birth. Social history was negative for tobacco, alcohol or illicit drug use. Family history was significant for hypertension and type two diabetes on the maternal side. She had no allergies. Serum chemistries revealed a normal CBC and differential, normal basic metabolic profile with the exception of the potassium was 306.1 indicative of a primary aldosteronism. Electrocardiogram showed a sinus arrhythmia with U waves. Transthoracic cardiac echo showed good Left ventricular function and an EF of 55%. Computed tomography angiogram of the abdomen reported a right adrenal mass approximately 1 x 1.5 cm. Endocrine and metabolic work up revealed a serum aldosterone level was 85.7, serum renin 0.28 and the ratio of renin to aldosterone was 306.1 indicative of a primary aldosteronism. Hypokalemia: triad of ST segment depression, low amplitude T waves, and prominent U waves.

Discussion

Secondary causes of hypertension should be entertained in patients who develop hypertension when they are young without additional risk factors such as obesity, family history and when the hypertension is severe or refractory to treatment. The triad of hypertension, hypokalemia, and metabolic alkalosis should prompt a suspicion of primary aldosteronism. The incidence of primary aldosteronism is noted to 1.4-13% in the literature 2,3. It is crucial to identify these secondary causes as treatment for this differs from those suffering from primary hypertension and in up to 20-35% cases it can even be curative.

References


CT Abdomen

Axial and coronal non-contrast images of the abdomen demonstrate a right suprarenal hypoattenuating nodule (arrows) arising from the adrenal gland. The lesion measured 17 HU.

H&E stained sections of adrenal gland showing the relationship of the adenoma (A) to non-tumoral adrenal (N).

H&E stained sections of adrenal adenoma. Regions resembling the zona fasciculata (A) and zona reticularis (B) were present.