Introduction

Primary Hyperaldosteronism or Conns Syndrome characterized by either idiopathic adrenal hyperplasia or adrenal adenoma leading to an excess production of aldosterone in the body.\(^1\) Excess of this mineralocorticoid can lead to a plethora of problems including a suppression of renin, sodium and fluid retention leading to hypertension, loss of potassium causing hypokalemia and hypomagnesemia. The first case of primary aldosteronism was reported by Dr Litynski in 1953.\(^2\) The diagnosis of different types of primary aldosteronism can be challenging as although bilateral adrenal hyperplasia and aldosterone secreting adenoma are the most common causes it can also manifest as rarer unilateral adrenal hyperplasia or glucocorticoid responsive aldosteronism.\(^3\)

The hypertension and electrolyte imbalance in primary aldosteronism can complicate a patient’s condition and can cause severe problems especially in a patient who is pregnant. It is a well-known fact that 8% of all pregnancies are made complicated because of hypertension. Despite 10% of these cases being due to hyperaldosteronism little data is available regarding it.\(^4\)

Abstract

Conn's syndrome refers to excess production of aldosterone by adrenal glands leading to an increase in blood pressure of the patient. There are often various other associated signs and symptoms due to which a patient may present often due to fluid overload and/or electrolyte abnormality. A 38 year old married female presented to the clinical with a raised blood pressure of 150-170 mmHg systolic and 100-120 mmHg diastolic. She also had a history of raised blood pressure during pregnancy with the first pregnancy being aborted and the second and third having markedly raised blood pressures. There was no associated history of palpitations, headache or anxiety. Her workup was done with a high aldosterone concentration and a low serum renin being detected. Her electrolytes were found to be normal and on ultrasound her kidneys were also normal. The patient was started verapamil to lower her blood pressure and a diagnoses of primary hyperaldosteronism was reached as the Plasma aldosterone to Renin ratio was raised with absence of any other cause.

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Case

A 38 year old, married female, Para 1 Gravida 1+1, who was a housewife, belonging to a middle class family in Karachi with reported hypertension during previous pregnancies presented to the endocrine clinic at Aga Khan Hospital with the primary complain of raised blood pressure at home ranging from 150-170/100-110 mmHg. She did not have any history of steroid intake, anxiety, palpitations or headache. She had hypertension in both her previous pregnancies with the first pregnancy in 2016 being aborted due to hemodynamic instability. In 2017 she had raised blood pressure during third trimester of her second pregnancy and needed a preterm caesarian delivery following raised blood pressure. Now in her third pregnancy she has raised blood pressure from the first trimester with no other current complain.

During clinical examination she was found to have a BMI of 26.8kgm\(^2\) and a blood pressure of 140/90 mmHg. No other abnormality was found and the rest of general physical, CVS and respiratory examination was unremarkable. She was started on Calan SR (verapamil), a calcium channel blocker and was advised to
Primary aldosteronism can negatively affect a woman and the fetus in pregnancy. The effects of hypertension on pregnancy have been well documented (4) and an iatrogenic increase in aldosterone can lead to several potential problems in pregnancy. Morton et al reviewed 5 pregnancies in four women reaching the conclusion that cases of primary aldosteronism are underdiagnosed in patients. A high plasma aldosterone as well as a high aldosterone to renin ratio is needed for the diagnoses of primary aldosteronism as was the case with our patient.

As seen in previous studies the treatment of primary aldosteronism in pregnancy required the use of drugs that lower blood pressure and are also safe to be administered in pregnancy. Our patient showed decrease in blood pressure following the use of verapamil thus it was continued throughout the duration of pregnancy.

**Conclusion**

Primary aldosteronism can present as high blood pressure in a pregnant female, thus making it necessary for it to be ruled out in a patient with elevated blood pressure. For the diagnosis of primary aldosteronism a raised serum aldosterone level with an elevated plasma aldosterone to renin ratio is required. An antihypertensive agent which is safe during pregnancy such as a calcium channel blocker can be considered a viable option for the management of such patients.

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**References**