

# Case of Herbal Tea Causing Severe Hypokalaemia and Hypertension

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## Introduction

Liquorice intake is an uncommon but familiar cause of hypokalaemia and hypertension. Liquorice tea is available over the counter as herbal tea to promote general wellbeing. This case report describes a 64-year-old male patient who presented to hospital with severe hypokalaemia and hypertension. During the in-patient stay, patient was managed with potassium replacement and anti-hypertensives (avoiding medications that interfere with endocrine investigations). Investigations were initiated for suspected primary hyperaldosteronism and cortisol excess and referred to Endocrine clinic.

## Management

### Hospital

Initially started on Doxazocin 2mg and titrated to achieve adequate blood pressure control.

Commenced on Sando K tablets and was titrated up to eight tablets per day to achieve normal potassium levels.

### Endocrine Clinic

All investigations were reviewed. A detailed clinical history specifically about liquorice was asked. Patient reported taking liquorice tea 2-3 times per day for the past year. Patient was advised to stop liquorice intake and over the next week.

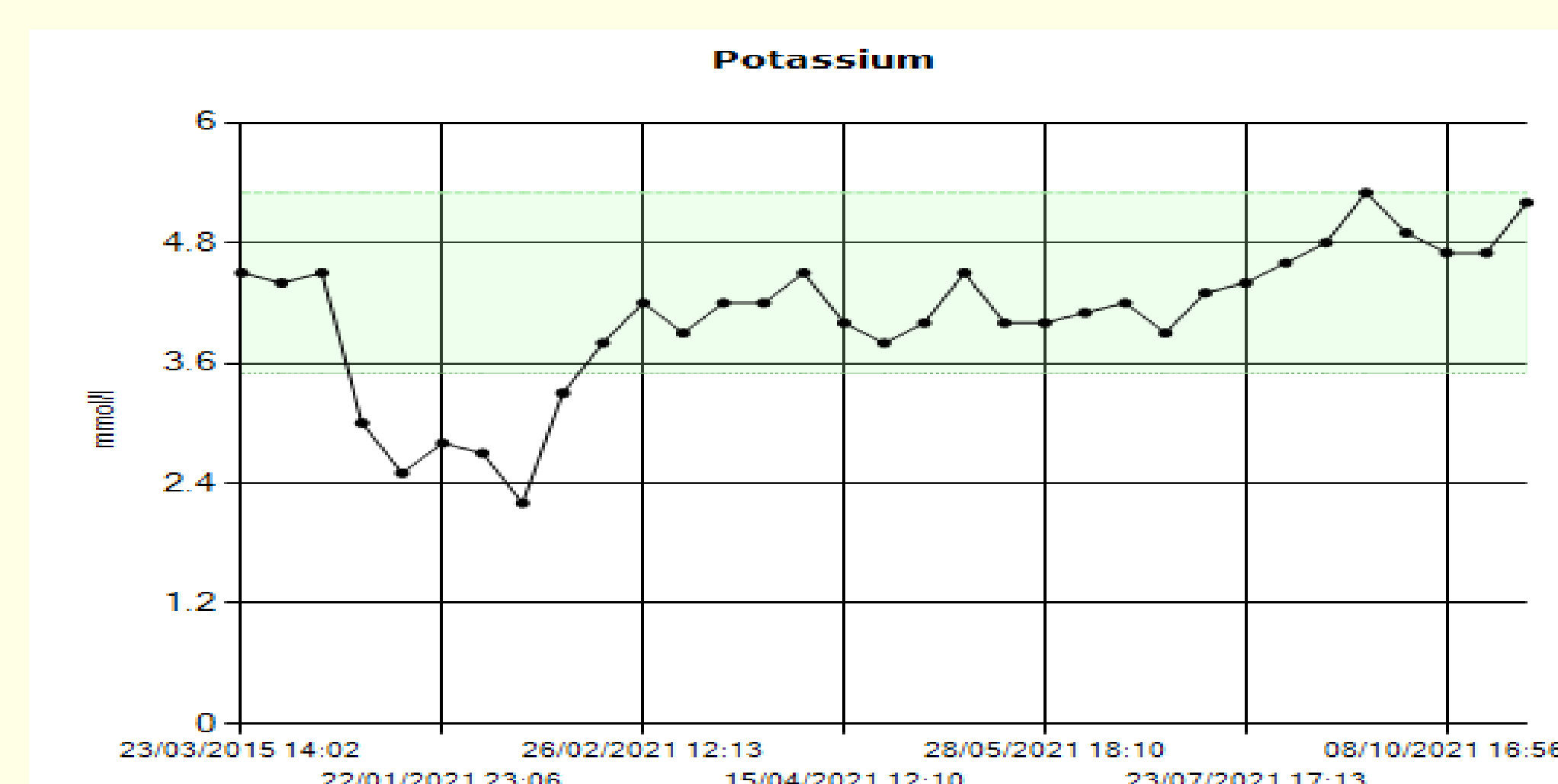
## Outcome

Sando K dose was reduced and stopped. Patient continued to maintain normal serum potassium levels.

Anti-hypertensives were also tapered and stopped over next four weeks and blood pressure remained normal.

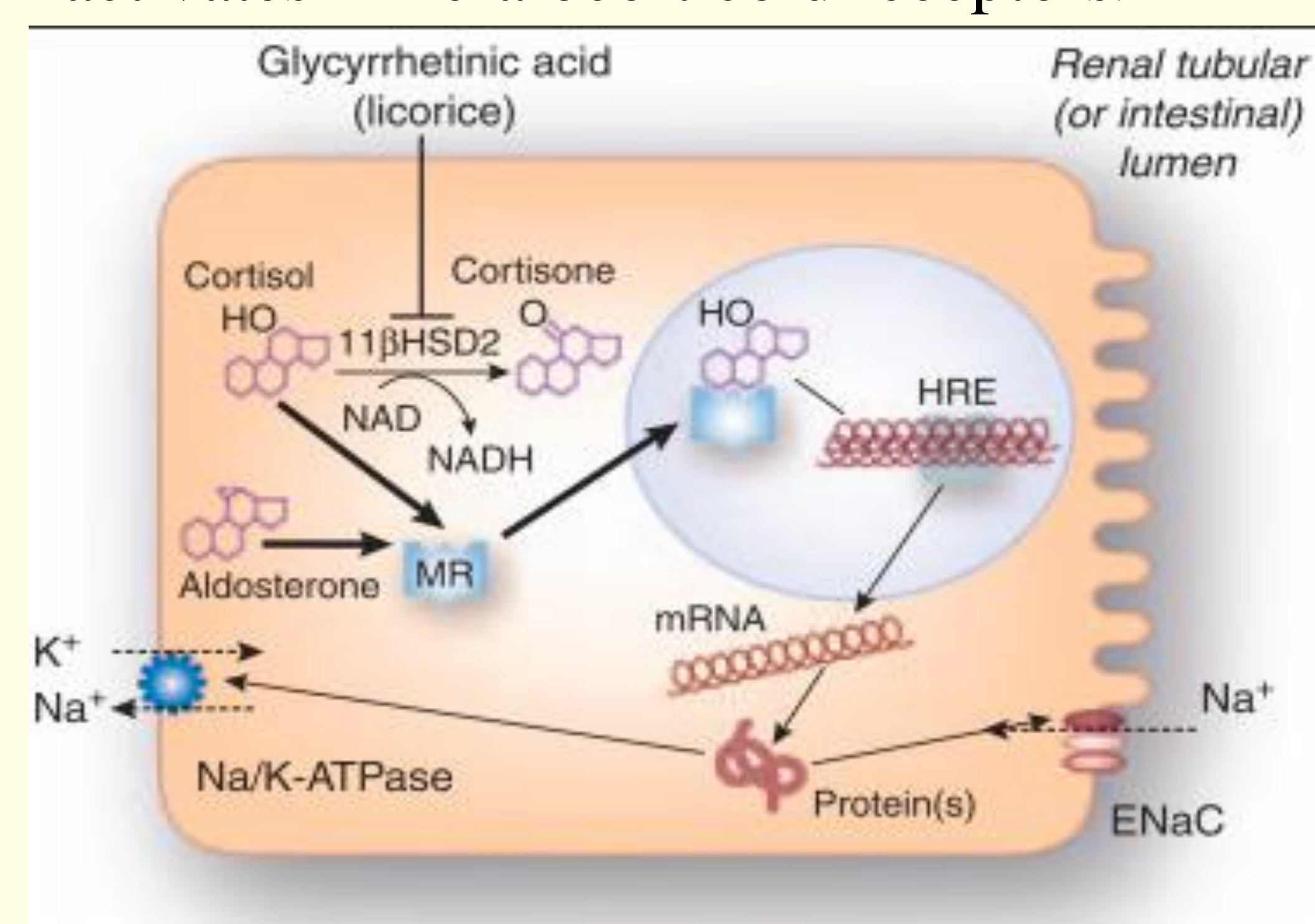
## Investigation

Test	Result
Renin	0.2nmol/L/H
Aldosterone	<55pmol/L
Cortisol	460nmol/L
Growth Hormone	75microgram/L
Arterial Blood Gas	pH 7.51, HCO 38.3
Metanephrines	0.21nmol/L
Normetanephrines	0.44nmol/L



## Mechanism of Action

Liquorice acts on aldosterone-responsive tissues and inhibits 11β-hydroxysteroid dehydrogenase, which converts cortisol to cortisone. This leads to high levels of cortisol which activates mineralocorticoid receptors.



## Discussion

Prolonged and regular use of liquorice can result in hypokalaemia and hypertension.

Many times, patients do not realise or report liquorice use unless specifically asked for it. In recent times, our Endocrine team has come across two other cases of hypokalaemia and hypertension secondary to liquorice intake.

Therefore, detailed history and direct questioning regarding liquorice intake is advisable in all patients with hypertension and hypokalaemia and would help avoid unnecessary investigations.

## References

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