

BACKGROUND

Classically adrenal insufficiency presents with hyponatraemia and hyperkalaemia, however the differential may be of alternative origin.

Atopic dermatitis is a common inflammatory skin disease of infancy and childhood. In severe cases, the exudation from wet lesions can produce serious complications such as infection + very rarely electrolytes abnormalities as seen in this case.

CASE REPORT

A 6 month old female infant was referred for endocrine review due to hyponatremia (129mmol/L) and hyperkalaemia (6.6mmol/L) with a suspected diagnosis of adrenal insufficiency and possible Congenital Adrenal Hyperplasia (CAH). She was not virilised, appeared very well in herself and blood pressure was normal. She was born at term with normal birth weight had a past medical history of possible cow's milk allergy and severe eczema.

Initial bloods showed normal glycaemia, no acidosis. See **Table 1**. Her eczema was infective with widespread exudate and was treated with oral flucloxacillin, topical emollients and steroids. The hyponatraemia was treated with sodium supplementation. The hyponatraemia and abnormal biochemistry completely resolved with improvement of the eczema on repeat testing.

CONCLUSION

- The cause of this patient's hyponatraemia, hyperkalaemia, hyperaldosteronaemia and hyperreninaemia were secondary to oozing exudation due to severe atopic dermatitis and cow's milk allergy associated with loss of fluid and electrolytes, which resolved on appropriate dermatological treatment and changing over to Nutramigen (hydrolysed formula) and breast milk with her mother commencing a dairy free diet.
- The raised aldosterone and renin levels associated with hyponatraemia, led to consideration of both CAH and pseudohypoaldosteronism type I (PHA-I). CAH was excluded as described above and PHA-I which results from renal tubular unresponsiveness or resistance to the action of aldosterone resulting in elevated Aldosterone and Renin levels and a similar biochemical picture with renal salt losing was excluded due to an appropriately undetectable urinary sodium level; thus (PHA-I) was ruled out.

Glycemia	normal
Cortisol	183 nmol/L
ACTH	10 ng/L
17-OH-progesterone	14.5 nmol/L (<19.6)
Aldosterone	>2.700 pmol/L
Renin levels	>500.00 mU/L
Sodium level urine	<10 mmol/L (normal)
Synacthen test	peak cortisol 1975nmol/L
Post synacthen urine steroid profile	normal

Table 1

