



Dual Pathology: A Case Report

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Introduction

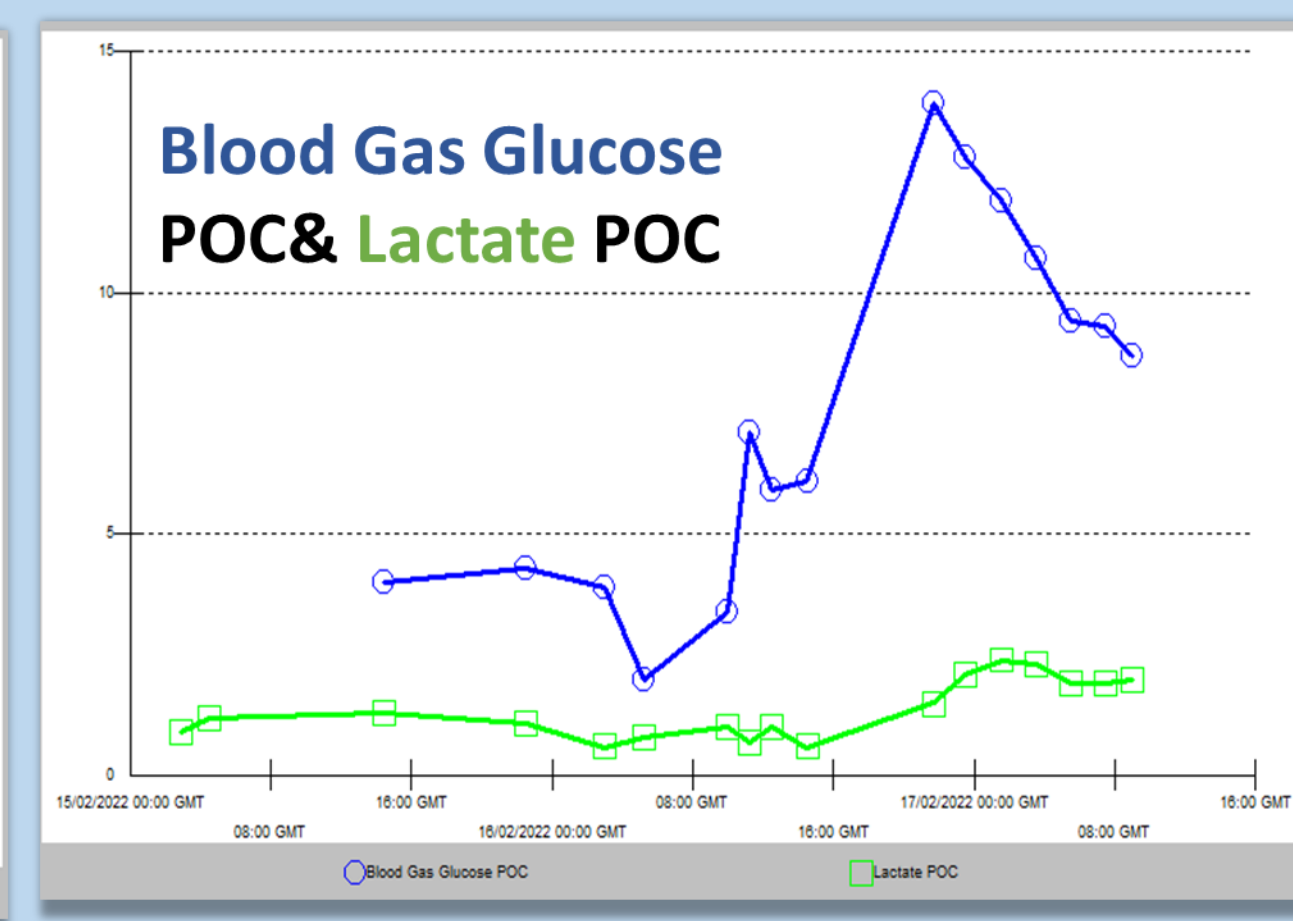
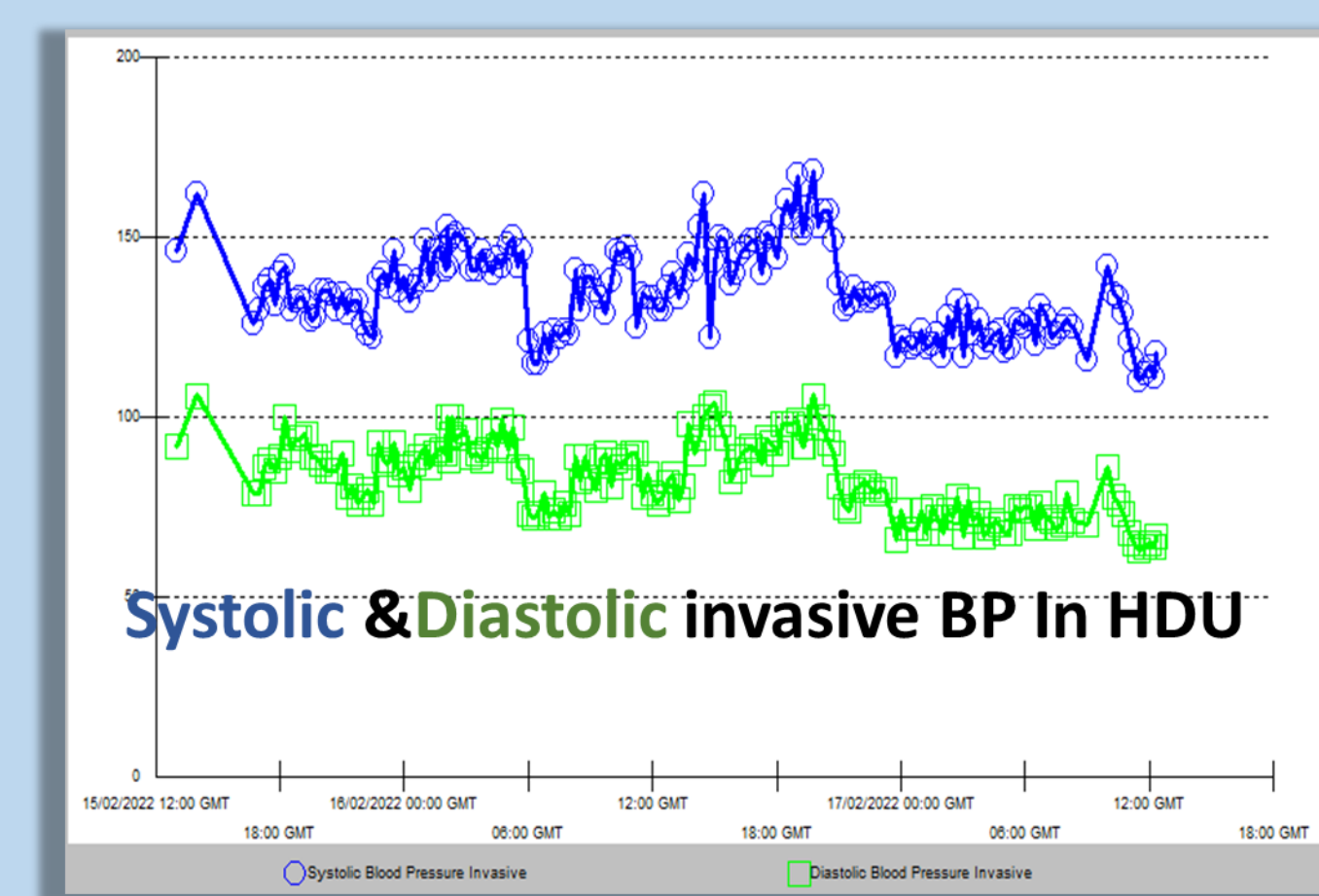
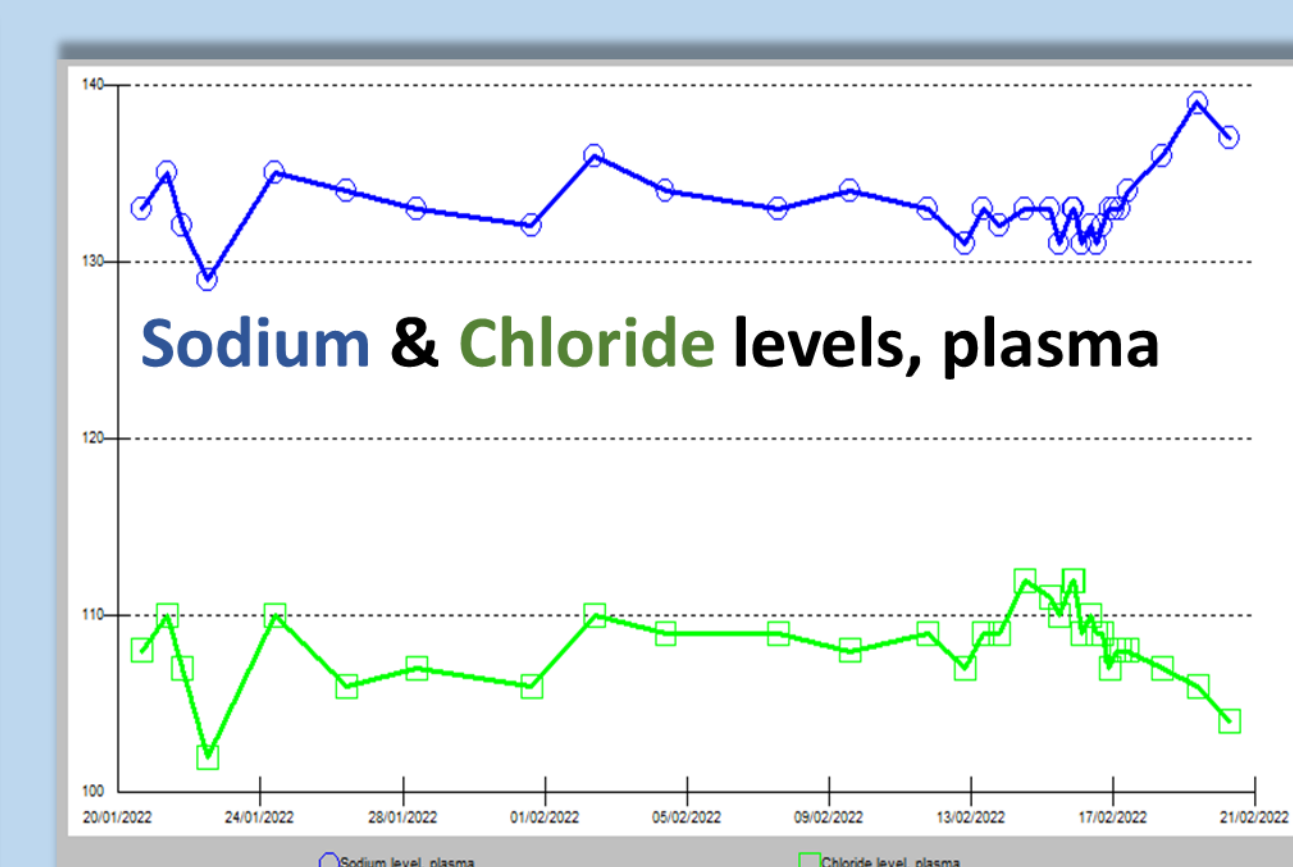
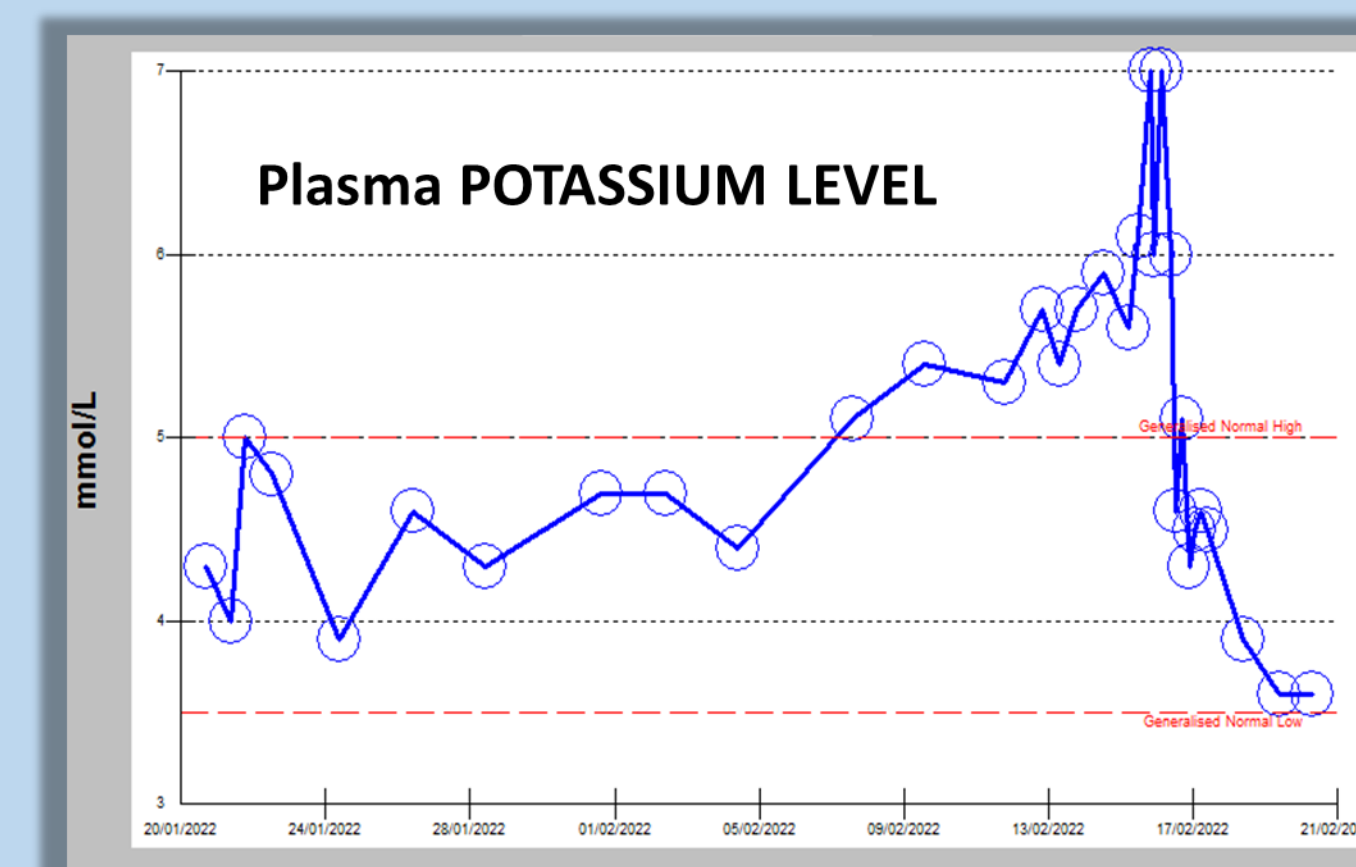
Preeclampsia toxemia (PET) is a progressive multisystem disorder with features of new onset hypertension and proteinuria with or without end-organ dysfunction. Along with bed side examination and accurate measurement of vital signs, laboratory investigations are key to diagnosing and managing suspected PET. With asymptomatic PET but deranged laboratory results, medical professionals should be careful not to miss possible concurrent disease processes.

Case Report

We report the case of a previously well 22-year-old patient of Indian origin who booked at the National Maternity Hospital with her twin pregnancy at 16 weeks. She was in a consanguineous relationship and had undergone successful IVF treatment resulting in a DCDA twin pregnancy in India. Sadly her 21 week scan showed the intra-uterine demise of twin 1, but twin 2 did show normal growth with no anomalies detected.

The patient was initially admitted from the outpatient antenatal clinic at 23 weeks for management of new onset hypertension, proteinuria, and bilateral pedal oedema, giving a diagnosis of pre-eclampsia. She was largely asymptomatic of PET and was commenced on oral labetalol 200mg BD and fluid restricted to 2000mls per day. Steroids for foetal lung maturity were given. Over the course of her inpatient stay, the patient developed worsening electrolyte derangement as well as hypoalbuminaemia. On developing more profound hyperkalaemia with probable ECG changes, she was transferred to the high dependency unit for intraarterial blood pressure monitoring and management of her potassium levels and fluid balance. The diagnosis was unclear at this point, but labetalol induced hyperkalaemia, worsening PET with renal dysfunction, or necrotic tissue of twin 1 causing hyperkalaemia, were all being considered.

The patient continued to deteriorate with labile blood pressure and hyperkalaemia refractory to conventional medical therapy. Caesarean delivery was decided upon for worsening pre-eclampsia. The patient's post operative course was complicated by worsening electrolyte derangements and oliguria. Potassium levels were difficult to manage with repeated measurements greater than 6. Hyponatraemia was noted on point of care(POC) blood results, and one episode of hypoglycaemia with a blood sugar level of 1.9mmol also occurred. Worsening hyperreflexia without clonus was managed with 4g of magnesium sulphate infusion. A diagnosis of partial adrenal insufficiency with concurrent pre-eclampsia was arrived upon after consultation with a consultant endocrinologist. Hydrocortisone treatment was commenced with almost immediate correction of electrolytes as seen on both POC testing and laboratory results. The patient was discharged home on oral hydrocortisone with a follow up appointment three months later with endocrinology.



Discussion

Adrenal insufficiency (AI) is a relatively uncommon condition in pregnancy and the diagnosis of the disease can be challenging. The fetoplacental unit raises cortisol levels in pregnancy due to increased levels of corticotrophin-releasing hormone and adrenocorticotrophic hormone. The exact reference values for cortisol during pregnancy have yet to be established.

The presence of preeclampsia in our case masked the hypotension that the adrenal insufficiency would have caused. Our patient also had naturally high pigmentation, so a classic skin manifestation of adrenal insufficiency would not be evident. Though the patient's laboratory findings and response to steroid treatment were consistent with adrenal insufficiency, the patient's cortisol levels taken before and after the first steroid treatment dose, showed normal to high-normal cortisol levels.

Conclusion

Adrenal insufficiency in pregnancy is uncommon, but having two competing pathologies in the parturient is exceptionally rare. A multidisciplinary approach to care is imperative for the correct diagnoses to be uncovered, and an appropriate management plan to be instigated.

References

- Manoharan M, Sinha P, Sibtain S. Adrenal disorders in pregnancy, labour and postpartum – an overview. *J Obstet Gynaecol.* (2020) 40:749–58.
- A. Falorni, V. Minarelli, S. Morelli, Therapy of adrenal insufficiency: an update. *Endocrine.* Accessed 21 Nov 2012
- uen, K.C.J., Chong, L.E. & Koch, C.A. Adrenal insufficiency in pregnancy: challenging issues in diagnosis and management. *Endocrine* **44**, 283–292 (2013)