Adrenal crisis due to Addison ‘s disease presenting acute kidney failure: a rare presentation

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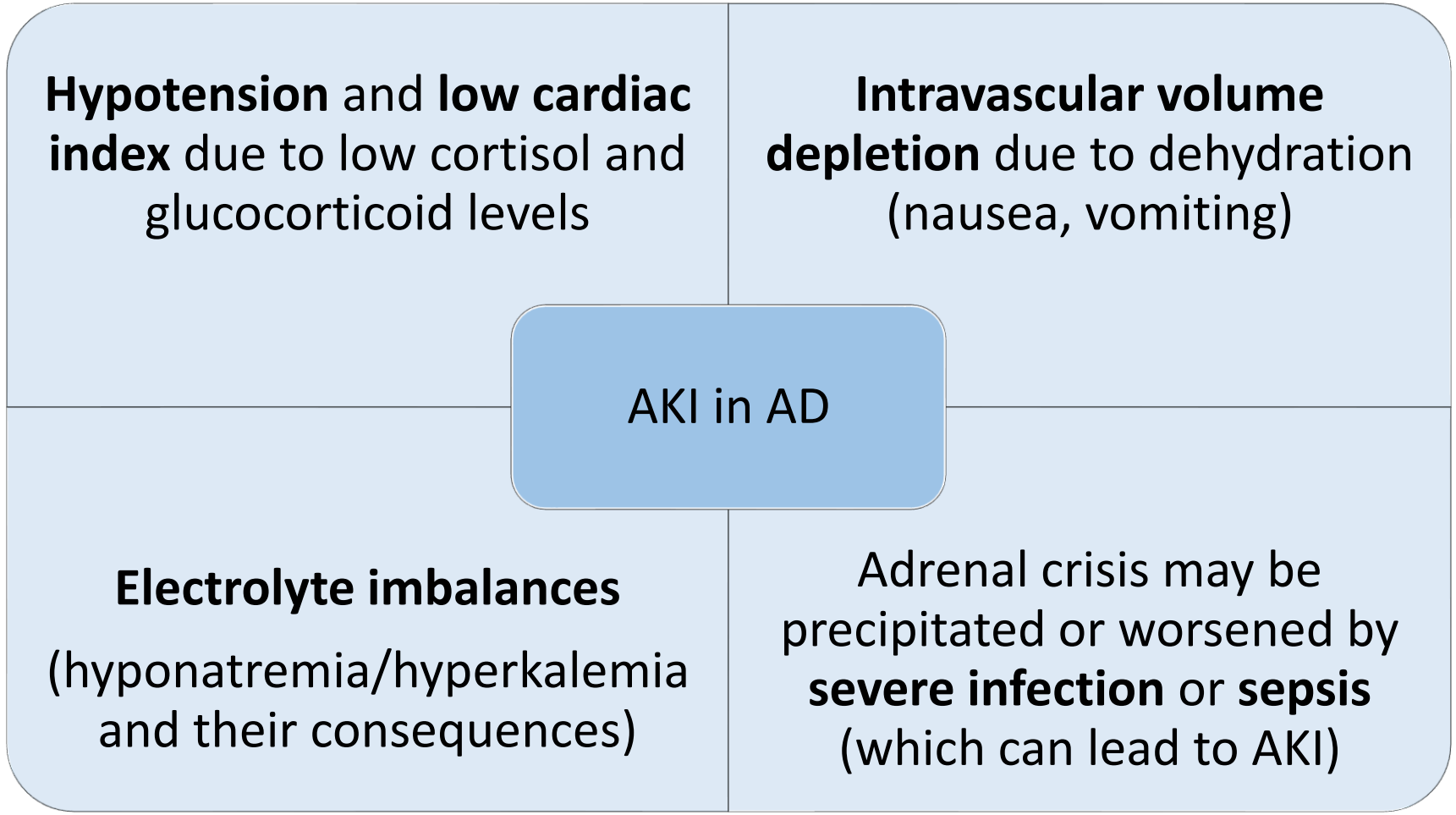
Introduction



*AKI as a presenting symptom in AD is with an incidence of 6% cases reported to the literature

Renal involvement in adrenal insufficiency (Addison disease): can we always recognize it? Internal and Emergency Medicine .2020 ; An Addison disease revealed with a serious hyponatremia. Maguet H, Carreau A, Haytefeuille S, Bonnin P, Beaune G Ann Biol Clin (Paris), (1):87-91 2017; Addison's disease presenting with Acute kidney injury. Connor A, Care.S, Taylor J Clin Med (Lond)

Case report

Patient presentation

- 38 years , male
- Symptoms: confusion, disorientation, fever, nausea, vomiting, hyperpigmentation
- Past medical history: Congenital adrenal insufficiency and bilateral orchiectomy due to bilateral benign tumor
- Non-compliance: Detailed history revealed non-compliance with fludrocortisone therapy (he didn't take it for few months)

Emergency Center Findings

- Hypotension (TA 90/60mmHg)
- Tachyarrhythmia (HR 150)
- Fever 39C
- Hyperpigmentation
- Labs:

Creatinine	393 µmol /L
Urea	12 mmol /L
Sodium	125 mmol /L
Creatine Kinase	3710 U/L
CK-MB	314 U/L
CRP	111
Leukocytes	22.7 x10^9/L

*Patient was hospitalized at intensive care unit

Medical Update and Treatment Progression

Additional analysis on day 01

ACTH	218 pmol/L ↑
Cortisol (8am)	3.22 mcg/dL ↓
TSH/T3/T4	3.55/2,23/1,36 mIU/l
Microbiology	Negative Pancultures
Chest X-ray	Pneumonia
Other analysis	Unremarkable

Complications

4 days post-admission, an upper gastrointestinal endoscopy was performed due to the presence of melena and revealed a stomach ulcer classified as Forrest III. Subsequently, therapy was modified, with a reduction in hydrocortisone dosage (from 3x50 mg to 2x50 mg IV)

Initial treatment

Treatment	Details
High doses of hydrocortisone	- 2x100 mg i.v.
PPI	- Continuous infusion
Antibiotics and aggressive IV fluids	- According to clinical need

Improvement on day 10

Creatinine = 84µmol/L	Urea =7.6 mmol/L
CK =133 U/L	CRP= 16,1
Sodium =139 mmol/L	
ACTH = 60.4 pmol/L	
Cortisol (8am) = 24.5 mIU/L	

Follow up

3 weeks after discharge

Creatinine	60 µmol/L
Urea	3.5 mmol/L
Sodium	141 mmol/L
Potasium	4,4 mmol/L
ACTH	62 pmol/L
Cortisol	6,84 mcg/dL

Current therapy

Therapy	**Dosage/Regimen**
Hydrocortisone tablets	20mg +10mg +10 mg
Fludrocortisone tablets	0.1mg once daily
Testosterone injection	25mg IM every two weeks

Conclusion

- No underlying cause of his rhabdomyolysis was identified, so it was considered secondary to Addisonian crisis induced hyponatremia.

- The emergence of acute kidney injury (AKI) in adrenal crisis exacerbated by infection and rhabdomyolysis presents a formidable clinical challenge

- The comprehensive approach should prioritize addressing the underlying adrenal crisis while concurrently managing infections and preventing complications such as rhabdomyolysis. Early recognition and targeted therapy are critical in reducing AKI and improving patient outcomes in such complex clinical scenarios.

Thank you