Emergency management of Adrenal crisis (acute adrenal insufficiency) in adults

University Hospitals of Leicester NHS
NHS Trust

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1. Introduction

- **Acute adrenal crisis (acute adrenal insufficiency)** is a life-threatening endocrine emergency as a result of lack of adequate production of cortisol.
- Identifying patients at risk and prompt management is vital as it can be fatal if left untreated.
- Adrenal crisis should be suspected with following presentation:

Clinical features

- **Weakness**
- **Lethargy**
- **Weight loss**
- **Dizziness**
- **Low BP**
- **Nausea & vomiting**

Clinical features

- **Abdo pain**
- **Fever**
- **Confusion**
- **Pigmentation if Addison's**
- **Muscle cramps**

Lab findings

- **Hyponatraemia**
- **Hyperkalaemia (only if Addison's)**
- **Hypoglycaemia**
- **Metabolic acidosis**
- **Acute kidney injury**

2. Scope

- This guideline is intended for all UHL clinicians managing adult patients with following conditions who are prone for adrenal crisis:

Conditions prone for crisis

- **Sudden stopping of long-term steroids**
- **Addison's disease**
- **Congenital Adrenal Hyperplasia**
- **Hypopituitarism**

Precipitating causes

- **If chronic glucocorticoid intake is suddenly stopped**
- **Failure to observe steroid sick day rules (page 3)**

3. Management

a) Emergency management pathway

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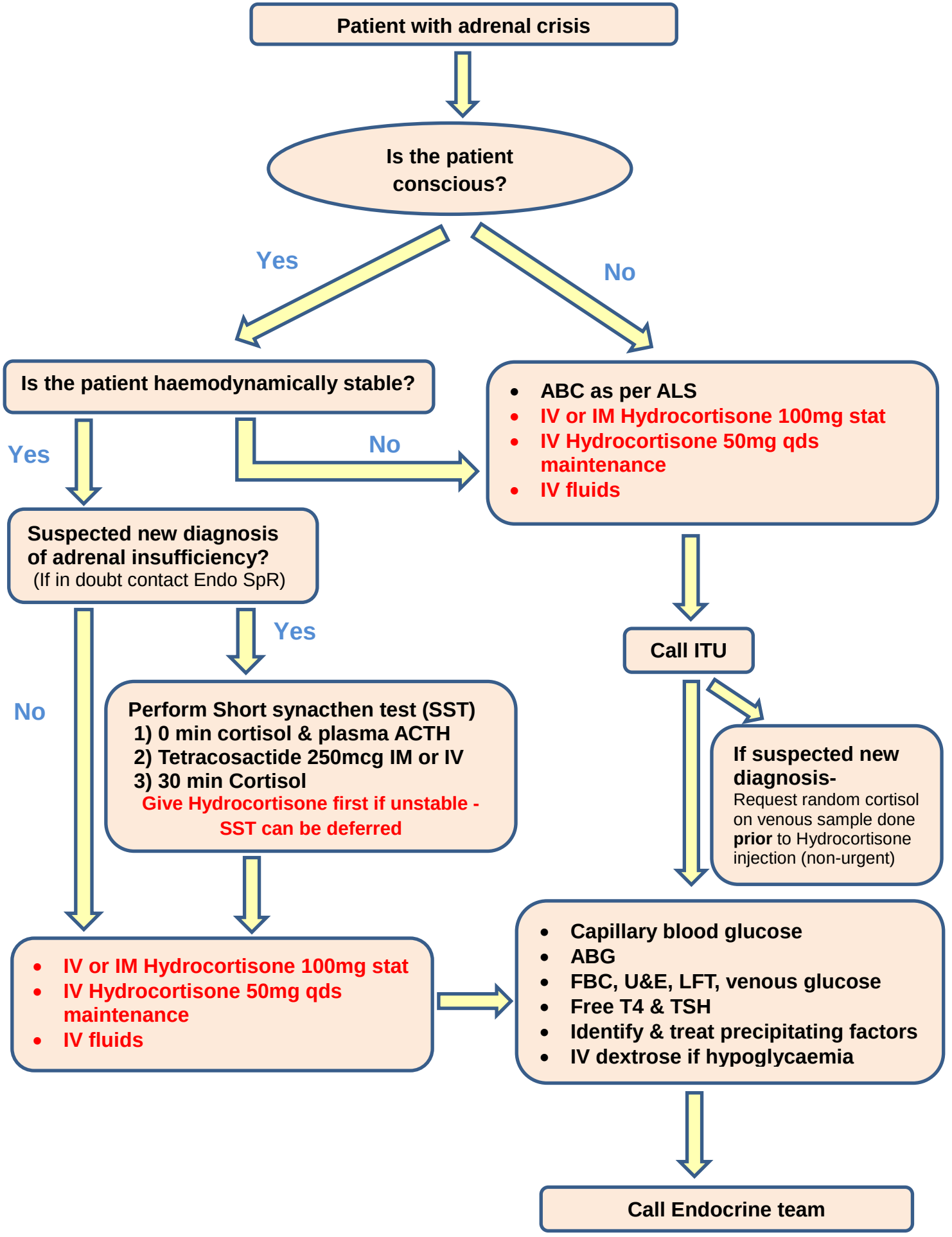

b. After emergency care

- Switch to oral steroids when patient clinically stable.
- Place a gradual tapering of steroids plan if on long term Prednisolone.
- If on Hydrocortisone- needs at least oral 20/10/10 mg tds until full recovery.
- Continue oral fludrocortisone at same dose if already on it.
- Provide steroid safety education.
- Issue emergency hydrocortisone kit.
- F/U in Endocrine clinic.

c. Steroid sick day rules

Sick day rule 1:

- **Double oral steroid dose in an event of illness and continue for the duration of illness**
- **Doubled dose of steroids not to exceed Prednisolone 30mg/day or steroid dose equivalent).**
- **Steroid dose equivalency:**

Prednisolone 5mg = Hydrocortisone 20mg = Dexamethasone 0.75mg

Sick day rule 2:

Switch to parenteral (IV Hydrocortisone 50mg qds) in an event of hypotension, trauma, surgery, anaesthesia etc., or if incapable of oral intake: *'nil by mouth'* or diarrhoea/vomiting.

d. Patient education

- **Sick day rules 1 & 2**
- **Teach how to inject emergency hydrocortisone injection.**
- **Encourage wearing medical alert bracelets or pendants.**
- **Issue emergency steroid card.**
- **Issue steroid safety leaflet.**
- **Self-help group website.**

4. Education and training

None, except dissemination of guideline.

5. Monitoring compliance

Adherence to the guidelines in patients with adrenal crisis should ideally be monitored every 18 months by an audit, with input from endocrinology and chemical pathology.

6. Legal liability guideline statement

Guidelines or Procedures issued and approved by the Trust are considered to represent best practice. Staff may only exceptionally depart from any relevant Trust guidelines or Procedures and always only providing that such departure is confined to the specific needs of individual circumstances. In healthcare delivery such departure shall only be undertaken where, in the judgement of the responsible healthcare professional' it is fully appropriate and justifiable - such decision to be fully recorded in the patient's notes.

7. References & key web links

Addison's disease self-help group https://www.addisons.org.uk/

Perioperative steroid management https://www.addisons.org.uk/files/file/4-adshg-surgical-guidelines/

SFE Adrenal crisis guideline https://ec.bioscientifica.com/view/journals/ec/5/5/G1.xml

How to use emergency kit http://endolri.org.uk/Endo_PDF/Hydrocortisone%20Emergency%20Kit%20Instructions.pdf

Patient steroid information leaflet http://www.endolri.org.uk/Endo_PDF/Steroid%20Replacement%20Treatment.pdf

8. Key words

Adrenal crisis, adrenal insufficiency, Addison's, congenital adrenal hyperplasia, hypopituitarism, adult patient, management.

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Details of Changes made during review: N/A - new guideline	