

WVU SICU Guidelines for Administration of Steroids in Relative Adrenal Insufficiency in Critical Illness

Inclusion criteria:

Must be :

- Over 18 years of age
- On at least one pressor agent

And must have one of the following :

- Hypotension (SBP <90) for at least one hour despite fluid resuscitation
- Urinary output less than 0.5ml/kg body weight for at least one hour despite fluid resuscitation
- PaO₂/FIO₂ ratio < 280

Exclusion criteria:

1. Patients with prior use of steroids or need for steroids for preexisting medical conditions
2. Pregnancy
3. Immunosuppression from AIDS or malignancy
4. Contraindications for steroid use
5. Be cautious about patients that have gotten etomidate 6 hour prior to initiation, as this may affect the test
6. DNR or advance directives limiting treatment

Protocol for Patients meeting Inclusion Criteria:

1. Perform a cosyntropin stimulation test by following the steps below.
 - A. Draw a cortisol level.
 - B. Give 250 mcg of cosyntropin IV.
 - C. 60min after drug given, draw another cortisol level.
 - D. If the first cortisol level is less than **15ug/dl**, start hydrocortisone 50mg IV q6h and fludrocortisone 100mcg po/vt daily. Continue with the 60-minute level even if steroids are started.
 - E. If the first cortisol level is between **15-34ug/dl**

AND

the 60 minute level fails to rise more than **9ug/dl** above the baseline cortisol level, start hydrocortisone 50mg IV q6h and fludrocortisone 100mcg po/vt daily.

- F. If the first cortisol level is between **15-34ug/dl**

AND

the 60 minute level rises more than **9ug/dl** the patient is unlikely to be hypoadrenal and steroids should **NOT** be used.

- G. If the first level is more than **34ug/dl**, the patient is unlikely to be hypoadrenal and steroids should **NOT** be used.

(Continued)

Steroid Treatment

If the patient responds to steroid therapy and clinically improves, the steroids can be stopped or withdrawn rapidly with the following taper.

If the patient remains critically ill and continues to require vasopressors, then steroids should be continued for **7** days then tapered as outlined below.

Taper Schema

- Hydrocortisone 50mg q12h or Prednisone 25mg daily (if taking po) plus Fludrocortisone 0.1mg po daily x 1 day

then

- Hydrocortisone 50mg IV daily or Prednisone 10mg daily (if taking po) –NO further Fludrocortisone x 1 day

then

- Hydrocortisone 25mg IV daily or Prednisone 5mg daily (if taking po) x 1 day

Note: this is a 3 day rapid taper to off.

Reference

1. Annane E. JAMA 2002; 288:662-71
2. Annane D. "Corticosteroids for Severe Sepsis - a Systemic Review." BMJ 2004; 329:480
3. Cooper MS. "Corticosteroid Insufficiency in Acutely Ill Patients." NEJM 2003; 348: 727-34