Diabetic patients requiring supra-therapeutic dose of Steroids*

Exclusion Criteria:

- Admission to the ICU.

- GFR < 30ml/min/1.73 m$^2$

- Hepatic failure with an ALT >2 times the upper limit of normal lab (56 IU/L).
- Patients on CS doses below prednisone 10 mg/d or the equivalent (40 mg/d HC, 8 mg/d methylprednisolone, or 1.5 mg/d dexamethasone)

1.  Hospitalized for at least 48 hours.

2.  Age 18-79 years

3.  Signed informed consent

Obtained Height, Weight, BMI, Age, Sex, duration of diabetes diagnosis, type of diabetes, outpatient therapy of diabetes (insulin and non-insulin medications), admission diagnosis , and indication for corticosteroid therapy

Labs:  A1c (Biorad Variant 2), Creatinine, calculated GFR, ALT, and c- peptide with glucose.  BG QAC+QHS

Intervention Group, 29 patients:

7.  Usual outpatient insulin regimen.

8.  Hold oral agents

9.  Stop Premeals insulin if patient is NPO.

10. Correction dose of Insulin** .

11. If A1c >9.0% ➔ add 0.3 U/kg/day of Glargine qhs.

Control Group, 31 patients:

1.  Usual outpatient insulin regimen.

2.  Hold oral agents

3.  Stop Premeals insulin if patient is NPO.

Daily corticosteroid dosing, insulin dosing, and fingerstick BG levels will be collected. The study will be discontinued at 5 days. For all patients we will track total length of hospital stay, number of days in ICU (if patients are transferred into ICU after enrollment), 30 day readmission rate, and 30 day mortality. Data will be collected on hypoglycemia and hyperglycemia and will be used to monitor the safety of the protocol.

* CS doses more than prednisone 10 mg/d or the equivalent (40 mg/d HC, 8 mg/d methylprednisolone, or 1.5 mg/d dexamethasone).

** Correction factor of 2/50 over 200 mg/dl, which will be increased to 3/50 over 200 if BG levels rise over 300 mg/dl after the first 24 hours of the study period.

Supplemental Figure 1: Study protocol including inclusion/exclusion criteria, baseline laboratory work up and dose titration.

|  | Low dose corticosteroid* | High dose corticosteroid** |
|---|---|---|
| Eating and 6 am – 8 pm | 0.15 U NPH/kg | 0.3 U NPH/kg |
| NPO and 8 pm – 6 am | 0.1 U NPH/kg | 0.2 U NPH/kg |

Supplemental Figure 2: NPH insulin dosing protocol

* Defined as prednisone between 10 - 40 mg or equivalent doses of hydrocortisone,

methylprednisolone and dexamethasone.

** Defined as prednisone 40 mg or more or equivalent doses of hydrocortisone,

methylprednisolone and dexamethasone.