INCIDENCE AND OUTCOMES OF UNDIAGNOSED AND UNTREATED DIABETES MELLITUS IN TRAUMA PATIENTS

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Introduction

- Diabetes mellitus (DM) is a major determinate for morbidity for hospitalization. Many diabetics can be undiagnosed or poorly controlled blood glucose levels.[1]
- Trauma patients disproportionately come from lower socioeconomic status and have less access to primary healthcare.[2] Trauma centers provide an early link to the healthcare system for many patients who lack access otherwise.
- Early identification and treatment may reduce hospitalizations and complications
- The aim of this study was to quantify the incidence of undiagnosed or poorly controlled diabetics assessed at a Level 1 Trauma Center, and to evaluate complications that occurred during their hospital stay.

Methods

- This was a retrospective chart review of all trauma patients seen at the Fanny Meisler Trauma Center at University Hospital over a one-month period. Patients were excluded for age<18 years, no past medical history (PMH), or no hemoglobin A1c (HbA1c).
- Patient with no PMH of DM and the absence of antihyperglycemics were classified based upon HbA1c into non-DM (<5.7%), pre-DM (5.7-6.4%), or undiagnosed DM (6.5% or higher).
- Patients with a PMH of DM or the presence of antihyperglycemics were classified based upon HbA1c into well-controlled DM (<8.0%) or poorly-controlled DM (8.0% or higher)
- In addition, rates of complications were collected with regards to myocardial infarction, acute kidney injury, and infectious complications (sepsis, pneumonia, urinary tract infection, or wound infection)

Results

	N (%)
Total Patients	244
Included	172
Non-DM	107 (62%)
Pre-DM	35 (20%)
DM Diagnosed DM Undiagnosed DM	30 (17%) 25 (83%) 5 (16%)
Diagnosed DM Well-controlled Poorly-controlled	25 (15%) 21 (84%) 4 (16%)

- Nine of 30 patients (30%) were either undiagnosed (5) or poorly controlled (4) diabetics
- Forty-four of 172 patients (26%) were either pre-DM (35), undiagnosed DM (5) or poorly-controlled DM (4)

In-hospital Complications	Rate	Sig
Myocardial infarction Non-DM Pre-DM DM	 1/107 (1%) 1/35 (3%) 1/30 (3%)	 -- NS NS
Acute kidney injury Non-DM Pre-DM **DM**	 6/107 (6%) 2/35 (6%) **8/30 (27%)**	 -- NS **0.0008**
Infectious complications Non-DM Pre-DM DM	 11/107 (10%) 8/35 (23%) 5/30 (17%)	 -- NS NS

Conclusions

- One quarter of all trauma patients admitted to our Level 1 trauma center would benefit from an intervention for improved glucose control.
- Prediabetics, undiagnosed diabetics, and poorly controlled diabetics could benefit from nutritional guidance and education, and undiagnosed and poorly controlled diabetics could benefit from starting or altering their medical glucose controls.
- Trauma centers should consider creating routine clinical practice guidelines to identify at-risk patients and provide intervention for long-term management.

References

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