# Prediabetes / Diabetes Mellitus / Hypoglycemia

## OA-D-01

### ASSOCIATION OF SERUM MAGNESIUM LEVELS WITH FASTING PLASMA GLUCOSE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS ON METFORMIN OR PIOGLITAZONE

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**INTRODUCTION**
The aim of this study is to analyze the association between serum magnesium level and fasting plasma glucose in patients with type 2 diabetes mellitus (DM) who had taken metformin or pioglitazone.

**METHODOLOGY**
Serum magnesium level and fasting plasma glucose were examined from a total of 41 patients whose type 2 diabetes was controlled with metformin ≥750 mg/day for at least 3 weeks or pioglitazone ≥15 mg/day for at least 4 weeks with a body mass index (BMI) of <30 kg/m$^2$. Fasting plasma glucose was analyzed using Roche/Hitachi Cobas C System. Serum magnesium level was analyzed using Roche/Hitachi Cobas C311/501 System.

**RESULTS**
The mean value of serum magnesium levels was 2.04±0.19 mg/dL. The median of fasting plasma glucose was 131±40, 85 mg/dL. The lower level of the serum magnesium had a significant correlation with fasting plasma glucose.

**CONCLUSION**
There is a significant negative correlation between the serum magnesium levels and fasting plasma glucose in type 2 DM on metformin or pioglitazone.

**KEY WORDS**
serum magnesium level, fasting plasma, glucose, type 2 diabetes mellitus

## OA-D-02

### CLINICAL PROFILE OF ADULT PATIENTS WITH HYPERGLYCEMIC CRISIS IN A PHILIPPINE TERTIARY MEDICAL CENTER, A TEN-YEAR RETROSPECTIVE STUDY

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**INTRODUCTION**
The last study about diabetic ketoacidosis and hyperosmolar hyperglycemic state in our country was done 20 years ago. New diagnostic tools and therapeutic regimen may affect diabetes control, the researchers intend to know the changes in the clinical profile of patients with hyperglycemic crisis in the country.

**METHODOLOGY**
Descriptive study that utilized chart review. Included patients >18 years old, admitted in DLSUMC between 2007 and 2017 with a diagnosis of DKA or HHS based on ICOA-D-10 codes. Pregnancy excluded. Clinical characteristics, biochemical profile and precipitating factors were tallied. Descriptive statistics was used and Quantitative variables were reported as mean with standard deviation, while qualitative variables were reported as frequency and percentage.

**RESULTS**
71 patients with DKA and HHS were included. Majority had DKA (53). 46 (64.79%) patients were known to have diabetes for 7-13 years. The mean Hba1c level is 9-17 mg/dL that is higher than the developed countries. CBG range upon admission among DKA patients were 327 to 593 mg/dL and 427 to 693 mg/dL for HHS patients. Majority were discharged-improved. The most common presenting symptom was abdominal pain 19 (35.84%). The most common precipitating factor was infection, same in Thailand and US.

**CONCLUSION**
Hyperglycemic crises is common in Filipinos with T2DM which could suggest breaks in health services delivery and the unaffordability of insulin and new antidiabetic medications for patients with financial constraints as compared with developed countries like US and Japan. HbA1c levels did not significantly differ in other countries and this is consistent with the progressive nature of diabetes mellitus.