

## OA-D-13

### HYPOGLYCEMIA ASSESSMENT AMONG TYPE 2 PATIENTS WITH DIABETES RECEIVING INSULIN BASALOG AND INSULIN LANTUS: A CROSSOVER RANDOMIZED CONTROLLED TRIAL USING CONTINUOUS GLUCOSE MONITORING SYSTEM (CGMS)

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#### INTRODUCTION

Hypoglycemia is a major limiting factor among insulin-treated patients in achieving optimal glycemic control. Analogue and biosimilar insulins have been shown to produce reductions in the hypoglycemia rates, however the actual assessment of hypoglycemia comparing insulin Lantus and the biosimilar insulin Basalog has not been described before.

#### OBJECTIVE

To evaluate hypoglycemia rates amongst T2DM patients receiving Basalog vs Lantus using continuous glucose monitoring (CGM).

#### METHODOLOGY

A single centre, randomized, open-label, crossover study was conducted over a 12-week period among T2DM patients (n=55), randomised into two-arm parallel group; Basalog and Lantus. Hypoglycemia was described by evaluating Low Blood Glucose Index (LBGI), M-value and Standard Deviation (SD) from CGM. Independent and paired sample t-test and one-way ANCOVA was performed using SPSS.

#### RESULTS

The respondents in Basalog (n=27) and Lantus (n=28) arm were similar in socio-demographics, duration of DM, complications of DM, comorbidities, use of oral hypoglycaemic agents, antihypertensive medications and lipid lowering drugs ( $p>0.05$ ). No difference in anthropometrics, vital signs, lipid profile, renal profile, full blood count, liver function and urine microalbumin was found between the groups ( $p>0.05$ ). Mean HbA1c was 8.8% and 8.7% with Glargine and Basalog, at baseline respectively. Both insulins had no significant differences in SD ( $2.7\pm 0.99$  vs  $2.5\pm 0.93$ ,  $p>0.05$ ) and M value ( $15.9\pm 18.11$  vs  $14.9\pm 25.01$ ,  $p>0.05$ ). There was lesser low CGM excursions (LBGI) for Basalog compared to Lantus ( $2.3\pm 3.37$  vs  $3.4\pm 4.90$ ,  $p=0.107$ ).

#### CONCLUSION

With lesser low glycemic excursions, Basalog may be a feasible alternative basal insulin as compared to Lantus in Type 2 patients with diabetes.

#### KEY WORDS

diabetes mellitus, type 2, hypoglycemia, Lantus, Basalog, CGM

## OA-D-14

### IMPLEMENTATION OF DIABETES ONE-STOP CENTRE (DOSC) IN A TERTIARY HOSPITAL IN CENTRAL PAHANG, MALAYSIA: SUCCESS, FAILURES AND LIMITATIONS

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#### INTRODUCTION

A comprehensive diabetes management currently focuses on ensuring patient self-management. To achieve this goal, a cohesive management team that includes physicians, diabetes educators, pharmacist, dietician, physiotherapist and podiatrist is required. Implementation of a DOSC provides an ideal avenue for patients to receive a holistic assessment. DOSC was implemented in Hospital Sultan Haji Ahmad Shah, a Malaysian tertiary hospital in central Pahang since 2015. DOSC was an ideal concept for patient assessment since this hospital had wide area of patient coverage. This study aimed to assess the impact of DOSC implementation on diabetes outcomes such as HbA1c control, diabetes complications, mortality and clinic defaulter.

#### METHODOLOGY

This is a cross-sectional study assessing patients who were recruited into DOSC between 2015 and 2017. Baseline data and follow-up were collected through patient information system. Information included: demographics, HbA1c, diabetes complications, mortality and 2018 latest follow-up data.

**RESULTS**

Five hundred patients were recorded with mean age of  $58.7 \pm SD1.49$  years and 64% male. The mean HbA1c at recruitment was  $9.86 \pm SD1.2\%$ . More than 70% of patients were on insulin therapy. 22.4% had retinopathy, 23.2% had nephropathy and 10.4% had neuropathy. At latest follow-up, there was significant HbA1c reduction compared to initial recruitment ( $1.23 \pm SD2.7\%$ ,  $p < 0.01$ ). There was a 5% mortality and 10% defaulter rates in the 3 years of follow-up. DOSC concept may seem ideal but many barriers were identified impeding its implementation.

**CONCLUSION**

Despite better HbA1c control, there are limitations in implementation of DOSC. Sustaining the provision of care requires optimal resources and manpower and maintenance of patient interest in diabetes care.

**KEY WORDS**

diabetes one-stop centre, diabetes, mortality

**OA-D-15**


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**PREVALENCE OF METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) COLONIZATION, RISK FACTORS AND ANTIBIOTIC SUSCEPTIBILITY PROFILE AMONG PATIENTS WITH ASYMPTOMATIC DIABETES MELLITUS TYPE 2**

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**INTRODUCTION**

Infection is one of the major causes of increased morbidity and mortality in individuals with diabetes mellitus. One of the bacterial pathogens associated with these infections is the methicillin-resistant *Staphylococcus aureus* (MRSA). This is probably because diabetes mellitus is one of the significant risk factors for MRSA colonization. Colonization of the said organism may act as an endogenous reservoir which places carriers at a greater risk for future infection. This study aims to identify the prevalence and risk factors for MRSA nasal colonization among individuals with diabetes mellitus in our locality and to determine the antimicrobial susceptibility of this organism. This will guide clinicians in the prevention and proper treatment of MRSA-related infections.

**METHODOLOGY**

This is a prospective cross-sectional study which included adult Filipino patients with diabetes mellitus type 2. Nasal swab samples were obtained and analyzed for the presence of MRSA.

**RESULTS**

Among 103 diabetic patients screened for MRSA nasal colonization, the prevalence rate is 6.8%. History of antibiotic use showed a positive correlation with the presence of MRSA nasal colonization. The isolates exhibited resistance to benzylpenicillin/oxacillin (100%), clindamycin (42.9%), quinupristin/dalfopristin, vancomycin, and cotrimoxazole (14.3%).

**CONCLUSION**

The prevalence of MRSA in this population is higher compared with other Asian countries. Contrary to other studies, there were no diabetes related risk factors identified. In this population, history of antibiotic use plays a significant role in MRSA nasal colonization. Therefore, clinicians should have a high level of suspicion of possible MRSA caused infection in diabetic patients with history of antibiotic use. The presence of antimicrobial resistance to B-lactams, clindamycin, cotrimoxazole, and vancomycin should prompt clinicians to be cautious in prescribing such antibiotics especially in high risk patients wherein inappropriate or delayed treatment is detrimental.

**KEY WORDS**

diabetes mellitus type 2, methicillin resistant staphylococcus aureus, nasal mucosa, carrier state

**OA-D-16**


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**EFFECT OF EXTRA VIRGIN OLIVE OIL ON POSTPRANDIAL BLOOD GLUCOSE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS**

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**INTRODUCTION**

The burden of diabetes continues to rise despite the emergence of new medications. Hence, all possible treatment modalities including the use of our readily available herbs and oils are explored. Extra virgin olive oil (EVOO) is known for its cardiovascular effects and its effect on glucose lowering. However, there has been no study on the efficacy of extra virgin olive oil on glucose lowering among Filipino patients with Type 2 Diabetes Mellitus. The primary objective of this study is to determine whether a significant difference exists in the 2-hour postprandial blood glucose of meals containing EVOO and meals without EVOO in patients with Type 2 Diabetes Mellitus.