PP-03

Obesity and Metabolic Syndrome Increase Risk Of Non-Alcoholic Fatty Liver Disease (NAFLD) in Patients With Sleep Apnea

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INTRODUCTION
Obstructive sleep apnea (OSA) has been closely associated with non-alcoholic fatty liver disease (NAFLD), with some shared features of metabolic syndrome. We aimed to study the effect of various components of metabolic syndrome on development of NAFLD in OSA patients.

METHODOLOGY
This was a cross-sectional study conducted at UiTM Medical Faculty. 110 subjects between 18 to 65 years of age with confirmed OSA were recruited, with exclusion of patients with Hepatitis B or C, and significant alcohol intake. Anthropometric measurements were taken, and liver ultrasonography performed for diagnosis of NAFLD. Apnea-hypopnea indices (AHI) were categorized as mild AHI≥5-<15, moderate AHI≥15-≤30, and severe AHI>30/hr based on polysomnography.

RESULTS
The prevalence of NAFLD within our study population was 81.8% (95%CI: 74.5-89.1) (n=90). Mean weight in the NAFLD group was significantly higher compared to the non NAFLD group (94.77kg±21.85 vs 74.67kg±16.80, p<0.001), with 82.2% of NAFLD group being obese (p<0.001). The prevalence of NAFLD was 81.8% (n=90). Subjects with NAFLD had significantly higher weight compared to those without NAFLD (94.77kg±21.85 vs 74.67kg±16.80, p<0.001). There were statistically significantly higher mean systolic blood pressure, waist circumference, hip circumference, waist hip ratio and severity of OSA (AHI) among the NAFLD and vs the non NAFLD groups (143.23 mmHg±16.33 vs 129.35 mmHg±19.96 mmHg, p=0.001; 109.44cm±16.26 vs 91.45cm±15.61, p<0.001, 113.11cm±14.58 vs 100.30cm±12.46, p<0.001, and 0.97±0.08 vs 0.91±0.07, p=0.002, mild AHI 24.4%vs70%, moderate AHI 31.2%vs25% and severe AHI 54%vs5%, p<0.001), respectively. Patients with BMI>27.5 had the highest risk of NAFLD (OR: 17.27, CI: 4.18-71.25, p<0.001), followed by hypertension (OR: 4.33, CI: 1.56-12.06, p=0.005), and diabetes (OR: 3.00, CI: 1.01-8.95, p=0.049).

CONCLUSION
This study highlights the increased risk of NAFLD in patients with OSA and components of metabolic syndrome, prompting the need for increased surveillance and modification of risk factors in this group of patients.

PP-04

Comparison of Diagnostic Performance and Clinical Utility of Different HbA1c Criteria against Oral Glucose Tolerance Test (OGTT) in Screen Detection of Diabetes in Penang, Malaysia

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INTRODUCTION
Glycated haemoglobin (HbA1c) cut-off of 6.5% has been recommended for diagnosing diabetes mellitus. However, HbA1c levels can vary due to functional glucose-independent attributes like ethnicity, which could influence diagnostic performance across different populations. The Malaysian Clinical Practice guideline advocates a lower HbA1c diagnostic cut-off of 6.3% based on one large national study. This study compared the diagnostic performance and clinical utility of HbA1c cut-offs of 6.5% and 6.3%, against the gold standard OGTT in diagnosing diabetes.

METHODOLOGY
A total of 298 subjects without diabetes aged ≥30 years old were purposively sampled across general hospitals, health clinics and community centers in Penang between February 2016 and December 2017. HbA1c cut-offs of 6.3% and 6.5% were validated against the 2-hour OGTT results. Sensitivity, specificity and predictive values were analyzed using SPSS version 22.0. Likelihood ratios (LR) with 95% CIs for diagnostic accuracy were yielded using MedCalc statistical software.

RESULTS
The sample constituted of 175 (58.7%) women and 123 (41.3%) men with mean age (50.9±11.5 years) and mean BMI (26.4±5.50 kg/m^2). The prevalence of diabetes was 21.8% using OGTT, 22.8% using an HbA1c cut-off of 6.5% and 30.2% using an HbA1c cut-off of 6.3%. At HbA1c level of 6.5%, the sensitivity was 72.3% and specificity was 91% with positive and negative predictive values of 69% and 92%. Likelihood ratios (LR+ and LR-, 95% CI) were 8.0 (5.2-12.39) and 0.3 (0.2-0.5), respectively. In contrast, HbA1c cut-off of 6.3% yielded a sensitivity of 84.6%, specificity of 85% with positive and negative predictive values of 61% and 95%. Likelihood ratios (LR+ and LR-, 95% CI) were 5.6 (4.1-7.8) and 0.2 (0.1-0.3), respectively.