with glyburide reduced the abundance and severity of lipid droplet accumulation predominantly in the centri- and mediolobular areas. GRT, glyburide and atorvastatin reduced the abundance and severity of lipid accumulation as well as the intensity score.

**CONCLUSION**
GRT or glyburide in combination with atorvastatin had no effect on blood glucose or lipid profiles, but a significant reduction in lipid droplet accumulation was observed.

## PP-D-33

### COMPARISON OF THRICE-DAILY PREMIXED HUMAN INSULIN WITH BASAL-BOLUS THERAPY AMONG PATIENTS WITH TYPE 2 DIABETES MELLITUS

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**OBJECTIVES**
In Malaysia's public hospitals, 82.4% of insulin-treated type 2 diabetes mellitus (T2DM) patients were taking human insulin due to budget constraints. Twice-daily premixed human insulin (PHI) regimen was intensified to basal-bolus (BB) regimen when glycemic control was inadequate. We aimed to compare the efficacy and safety of thrice-daily (TDS) PHI with BB regimen.

**METHODOLOGY**
A cross-over study among T2DM patients was conducted in Penang Hospital between October 2020 and June 2021. Patients in Group A were assigned to TDS and crossed-over to BB at week-12, and vice versa for group B. Glycated haemoglobin (HbA1c), total daily dose (TDD) of insulin, weight, hypoglycaemia, and adherence to insulin injection were measured at baseline, week-12 and week-24.

**RESULTS**
Forty-four patients (75% female; baseline mean HbA1c 9.55%; mean duration of T2DM 16 years) were included. Mean HbA1c reduced significantly from baseline to week-12 for group A (-0.95%, p<0.001) and group B (-1.06%, p<0.001) respectively. No difference in HbA1c in group A (-0.25%, p=0.212) when switching to BB at week-12 to week-24 but HbA1c reduced significantly in group B (-0.49%, p=0.007) when switching to TDS and significant between the groups, p=0.026. In group A, no difference in TDD but weight reduced significantly at week-12 (-0.5 kg, p=0.002). TDD increased significantly in group B (p=0.042) from baseline to week-12 and between the groups (p=0.044). Meanwhile, no difference in hypoglycaemia and adherence were observed within and between the groups.

**CONCLUSION**
Thrice-daily PHI is an effective and safe alternative to BB regimen when intensifying insulin treatment.

## PP-D-34

### PREDICTORS OF WORSENING GLYCEMIC CONTROL INDICES AND VARIABILITY AMONG ADMITTED MODERATE TO CRITICAL COVID-19 PATIENTS WITH TYPE 2 DIABETES MELLITUS

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**OBJECTIVES**
It has been noted that COVID-19 infection increases the risk of poor blood glucose control in T2DM patients and since diabetes is associated with low-grade chronic inflammation, COVID-19 exacerbates this inflammatory condition leading to heightened insulin resistance and hyperglycemia. Invariably, mortality risk is increased with hyperglycemia and poor glycemic variability, hence, this study aims to identify the predictors associated with glycemic control and variability among patients with COVID-19 and T2DM.

**METHODOLOGY**
This is a retrospective cross-sectional analytical study involving 109 patients with the diagnosis of moderate to severe COVID-19 and T2DM. Records review was done from March 2020 to June 2021. Odds ratio from binary logistic regression were computed to determine predictors for worsening glycemic control indices and variability. This research has been approved by the UST Hospital Research Ethics Committee.

**RESULTS**
Of the 109 patients, 78% had worsening glycemic control and variability, and 22% had no worsening outcomes. Chronic kidney disease (OR 2.83, p=0.035) was associated with poor glycemic variability. In contrast, increasing eGFR level (OR 0.97, p=0.004) was associated with less likelihood of worsening variability. HsCRP (OR 1.01, p=0.011), HbA1c (OR 1.86, p=0.003), severe COVID-19 (OR 8.91, p=0.008) and critical COVID-19 (OR 4.42, p=0.003) were associated with worsening glycemic control. Steroid use (OR 71.17, p<0.001) showed the strongest association with hyperglycemia.

**CONCLUSION**
Potential clinical, laboratory and inflammatory profiles were identified as predictors for worsening outcomes. HbA1c, hsCRP, and COVID-19 severity are predictors of hyperglycemia. Likewise, chronic kidney disease is a predictor of poor glycemic variability.