

Glycemic and metabolic control among elderly type 2 diabetes mellitus patients on basal-bolus insulin regime

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ABSTRACT

Introduction: The 6th Malaysian Clinical Practice Guideline on the Management of Type 2 Diabetes Mellitus (T2DM), recommends intensification of insulin to basal-bolus regime in patients with inadequate glycaemic control. However, the use of basal-bolus insulin is challenging and increase risk in elderly. This study aims to describe the characteristics, glycaemic and metabolic control of elderly T2DM patients on basal-bolus insulin. **Methods:** A cross-sectional study was conducted among elderly T2DM on basal-bolus insulin attending endocrine clinic, Putrajaya Hospital in 2019. Demographic data, glycaemic and metabolic parameters were gathered and analysed. **Results:** Of the 366 elderly patients, 185 were women, and the mean age was 67 years. More than half of them were found to be obese ($BMI \geq 27.5 \text{ kg/m}^2$) with mean BMI of $30.18 \pm 6.08 \text{ kg/m}^2$. Mean duration of T2DM was 18.6 ± 8.14 years. The most common comorbidities were hypertension with dyslipidaemia (74.9%). Diabetic nephropathy emerged as the most prevalent diabetes-related complication (67.2%) followed by retinopathy (59.3%). Mean HbA1c was $8.43\% \pm 1.76$. Two-third of the patients (74.3%) received combination treatment of basal-bolus insulin with oral glucose lowering drugs. The mean of total daily insulin requirement was $78.05 (\pm 35.753)$ units/day. Majority of the patients (78.1%) had blood pressure $\geq 130/80$ mmHg. Median LDL-cholesterol was 2.40 ± 1.3 mmol/L, median triglyceride was 1.50 ± 0.9 mmol/l and median HDL-cholesterol was 1.30 ± 0.4 mmol/L. **Conclusion:** Despite on basal-bolus insulin regime, most of the elderly diabetes patients had suboptimal glycaemic and metabolic control.