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### PREVALENCE AND RISK FACTORS OF DIABETIC NEPHROPATHY AMONG CHILDREN WITH TYPE 2 DIABETES MELLITUS

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#### INTRODUCTION

Youth-onset type 2 diabetes mellitus (T2DM) is an aggressive disease with early occurrence of diabetic nephropathy (DN), which can lead to end-stage renal failure. The prevalence of DN among Malaysian children with T2DM is not known. Risk factors associated with DN in T2DM children showed inconsistent findings among published studies. The main objectives of this study were to evaluate the prevalence of DN and determine the risk factors associated with DN among children with T2DM seen at University Malaya Medical Centre (UMMC).

#### METHODOLOGY

All patients diagnosed with T2DM before 18 years old from 1 January 2007 to 31 December 2020 with at least one year of follow-up were included. This retrospective case-control study compared cases (patients who developed DN) and controls (patients without DN). DN was diagnosed by the presence of microalbuminuria or macroalbuminuria. Logistic regression was performed to determine the independent variables associated with DN.

#### RESULTS

Forty-two patients were analysed: 48% were male, with mean age of  $12.5 \pm 2.3$  years and median diabetes duration of 4.4 (range 2.9 - 6.9) years. The prevalence of DN was 47%. The mean age of onset of DN was  $14.9 \pm 2.8$  years, after a median duration of T2DM of 1.8 (range 0.7 - 2.9) years. Three significant risk factors associated with the development of DN were NAFLD (OR 107.51, 95% CI; 2.10 - 5496.57), serum LDL-C at diagnosis (OR 3.43, 95% CI; 1.13 - 6.99) and HbA1c in the first three years of T2DM (OR 3.14, 95% CI; 1.05 - 9.34).

#### CONCLUSION

The prevalence of DN among T2DM children at UMMC is high. The risk factors significantly associated with DN were HbA1c levels in the first three years of diabetes, LDL-C at diagnosis and the presence of NAFLD.