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Prevalence of Obesity in Type 2 Diabetic Patients and its relationship with Diabetic Retinopathy in Hong Kong Public Primary Care Setting

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Introduction

Type 2 diabetes(DM) is now recognized as a major chronic disease throughout the world. The rapid surge of diabetes, especially in Asian Pacific region, is closely associated with the increase in obesity prevalence. Data from different studies consistently showed that diabetic patients had higher risk of developing microvascular complications. Diabetic retinopathy(DR) is one of the microvascular complications, and it is one of the leading causes of visual impairment and blindness in diabetic patients.

Objectives

To find out the prevalence of obesity (defined by body mass index [BMI] and waist circumference [WC]) in type 2 diabetic patients in Hong Kong public primary care setting, and to assess the association between obesity and diabetic retinopathy(DR).

Methodology

Patients' demographic factors, physical measurement, laboratory tests and comorbidities were collected. The prevalence of obesity, as defined by BMI and WC, in type 2 diabetic patients enrolled in RAMP was identified. The association of BMI and WC with DR were assessed using multivariable logistic regression model adjusting for age, sex, other risk factors and mutually for BMI and WC.

Result

Results:

Among the total 14129 diabetic patients, the prevalence of general obesity was 54.0% (n=7623)(defined by BMI \geq 25kg/m²) and central obesity was 73.6%(n=10399)(defined by WC \geq 80cm in female or \geq 90cm in male). In multivariable models, BMI was inversely associated with the presence of DR when analysed as continuous variables. (Odds ratio[OR], 0.97;95% CI, 0.95-0.99). When BMI was analysed as categories, obesity patients (BMI \geq 25kg/m²) were associated with lower odds of DR. (Odds ratio[OR],0.86;95% CI, 0.75-0.99). No statistical significant association was found between WC and DR when WC was analysed as continuous or categorical variables.

($P > 0.05$)

Conclusion:

This study showed a high prevalence of general and central obesity in type 2 diabetic patients in Hong Kong public primary care setting. General obese diabetic patients were less likely to have diabetic retinopathy. Further research is needed to understand the underlying mechanism. And central obesity was not associated with the presence of diabetic retinopathy.