

The association between parents history of type 2 diabetes with metabolic syndrome component insulin resistance in non-diabetic young adult male / A. Makbul Aman, Haerani Rasyid, Syakib Bakri, Ilham J Patellongi

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Abstrak

ABSTRAK

Background: the familial nature of type 2 diabetes is manifested by the presence of insulin resistance in non-diabetic first degree relatives. Most of these studies have been performed in middle-aged and there is only few published studies in young age individuals and adolescents. This study aimed to determine the relationship between parents history of type-2 diabetes with metabolic syndrome component and insulin resistance in adolescent non-diabetic subjects. Methods: this was a cross sectional study comparing the metabolic profile, risk of metabolic syndrome and insulin resistance in non-diabetic male adolescents (17-24 years old) whose one or both parents were with type-2 diabetes. We performed anamnesis, physical examination, fasting plasma glucose, lipid profile, fasting insulin level and insulin resistance based on HOMA-IR. Results: metabolic abnormalities were more prevalent in subjects whose parents were with history of type-2 diabetes, especially their waist circumference, fasting plasma glucose, triglyceride, fasting insulin and HOMA-IR ($p=0.000$). There was increased risk of developing central obesity in adolescents with parental history of 19.3 fold (95%CI 2.46-151.07) and insulin resistance of 10.3 fold (95%CI 3.89-27.23). Parental history of type-2 diabetes together with metabolic syndrome component ie. waist circumference >90 cm and triglyceride ≥ 150 mg/dl were strong determinat factors for insulin resistance ($R^2=50.7\%$). Conclusion: the early multiple metabolic defect can be detected in non-diabetes adolescents with parental history of type-2 diabetes. Cluster of metabolic syndrome component in these subject become a powerful determinat factor for insulin resistance.