

Prevalence of Insulin Resistance Syndrome (IRS) among young patients with newly diagnosed type 2 diabetes

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Introduction

Incidence of type 2 diabetes is reaching epidemic proportions in the South Asian region¹. A notable feature among subjects affected with type 2 diabetes is the presence of features of insulin resistance. Insulin resistance can be assessed in several ways. The gold standard is the euglycaemic clamp method which is cumbersome². Several other simple measurements of insulin resistance have been recognized.

These include fasting insulin / glucose ratio, the presence of more than three biochemical abnormalities including high blood pressure, elevated serum levels of triglycerides and subnormal levels of HDL cholesterol. We estimated the prevalence of clinical and biochemical markers of IRS among a cohort of newly diagnosed type 2 diabetic subjects under the age of 45 years.

Objectives

1. To estimate prevalence of IRS in a cohort of young patients with newly diagnosed type 2 diabetes mellitus.
2. To evaluate factors associated with IRS among these young patients with type 2 diabetes mellitus.

Materials and Methods

This was a descriptive study. 71 subjects under the age of 45 years diagnosed as having type 2 diabetes mellitus using WHO criteria, were included. Subjects underwent routine clinical and biochemical screening at the time of diagnosis. Data on fasting blood glucose levels, fasting lipid profile, body mass index and blood pressure were collected. Presence of IRS was diagnosed on the fulfillment of the following criteria.

Fasting blood glucose	> 125 mg/dl
Triglyceride	> 150 mg/dl
HDL cholesterol - men	< 40 mg/dl
- Women	< 50 mg/dl
Blood pressure - systolic	≥ 130 mmHg
- Diastolic	≥ 80 mmHg

Results and Discussion

The cohort consisted of 71 patients who were diagnosed to have type 2 diabetes before 45 years of age. The age range was 21 to 44 years with a mean age of 35.6 years (SD 4.68). There were 35 females and 36 males. The body mass index [BMI] ranged from 16.7kg/m² to 33.8kg/m² with a mean of 24.5. (SD 3.09).

The overall prevalence of IRS in the cohort was 31% (22 subjects). The mean BMI in the subgroup of patients with IRS was 24.6 kg/m². The prevalence of IRS among female patients with a documented

history of GDM was 23.1% and 69.2% of females with IRS have given birth to a child more than 3 kilogram. 63.6% of those with IRS reported a history of diabetes among their first degree relatives. Physical inactivity was noted in 68.2% of the subjects with IRS.

Conclusions

IRS was present in every third patient with newly diagnosed young patients with type 2 diabetes mellitus. It was more common in the subgroup of patients with a family history of diabetes, physical inactivity, and history of gestational diabetes or having a child with a birth weight of more than 3 kilogram.

Therefore due consideration must be given to strategies aimed at ameliorating insulin resistance in the prevention and management of type 2 diabetes in the young.

References

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