

METABOLIC SYNDROME

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Metabolic Syndrome represents a clustering of cardiovascular risk factors linked through their association with insulin resistance. This syndrome with complex conditions and risk factors is a major health problem which needs the understanding and attention of physicians and patients alike, as more and more patients of South Asian origin are dying from accelerated cardiovascular disease.¹

There is evidence that presence of insulin resistance can lead to macro vascular complications long before other features of metabolic syndrome are evident.

According to Adult Treatment Plan (ATP III) USA² diagnostic criteria, presence of 3 out of the following 5 factors is necessary for the diagnosis of Metabolic Syndrome.

- Abdominal obesity - waist circumference: ≥ 102 cm (40 in) in men, ≥ 88 cm (35 in) in women.
- High blood pressure - $\geq 130/85$ mm Hg or documented use of antihypertensive therapy.
- Increased insulin resistance: fasting glucose ≥ 110 mg/dl.
- Elevated levels of Triglycerides: ≥ 150 mg/dl.
- Low HDL cholesterol : < 40 mg/dl for men and < 50 mg/dl for women.

A relatively recent study in UK³ has shown that South Asian children aged 8-11 years already had higher levels of insulin and insulin resistance than white children of the same age. This may help to explain why the mortality rate of Coronary Heart Disease (CHD) in South Asians in UK is 40-50% higher than in their Caucasian counterparts. Insulin resistance may also develop in a person with reasonable body mass index, if he or she has abdominal obesity (central obesity).⁴

Metabolic syndrome is associated with a prothrombotic / proinflammatory state that may include elevated levels of C – reactive protein, endothelial dysfunction, hyperfibrinogenemia and increased platelet aggregation. The prevalence of metabolic syndrome in USA was 22% in 2001. A recent study in Pakistan in a preventive check up clinic showed that

the prevalence of metabolic syndrome in men was 31.8% and in women 39.8%.⁵ This study does not truly reflect the prevalence in the Pakistani population at large but shows that there is a significant prevalence of metabolic syndrome in a section of the Pakistani population.

A recent study among the South Asians living in UK indicated that a combination of beta blockers and thiazide diuretics for the treatment of hypertension may precipitate diabetes in this ethnic group.⁶ Therefore, use of this combination in Pakistani hypertensives with metabolic syndrome requires a degree of caution.

The LDL - C levels can be within the normal range in patients with metabolic syndrome. In addition to the well known non-pharmacological life style interventions, statins may be required in such patients to lower the LDL-C levels to below 100 mg/dl.

Family physicians, internists, endocrinologists and cardiologists must focus on identifying and detecting defects in glucose metabolism as early as possible. In this category of patients with metabolic syndrome, if life style interventions are ineffective, insulin sensitizing drugs (Metformin, Glitazones) could be an early option.

Awareness and understanding of risk factors in metabolic syndrome among physicians will go a long way in reducing the morbidity and mortality from cardiovascular disease. There is also a great need for the policy makers, non – governmental organizations (NGOs) and general public to become aware of the threat posed by this syndrome to the health of the individuals and families of developed as well as developing countries.

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