Prevalence of Metabolic Syndrome and its Clinical and Angiographic Profile in Young Patients with Acute Coronary Syndrome

Dr Surbhi Jain, Dr S Reddy, Dr Vipin Jain, Dr Ravi Mittal

Department of General Medicine, Government Medical College and Hospital, Chandigarh

ABSTRACT

Introduction

Metabolic syndrome (MetS) is known to increase morbidity and mortality from cardiovascular disease. Although western studies elucidate MetS as risk factor for premature Acute Coronary Syndrome (ACS), there is limited data available on association of MetS and early onset ACS in Indian population.

Aims and Objectives

To determine prevalence of MetS in patients < 40 years presenting with ACS; To study distribution of coronary plaques in culprit vessel by Coronary angiography and assess the relative influence of MetS on extent of coronary artery disease (CAD) in young adults.

Materials and Methods

A single centre observational study conducted at Department of General Medicine and Cardiology of GMCH-32, Chandigarh. Thirty three consecutive patients < 40 years presenting with ACS to Medicine Emergency/OPD were included and assessed for MetS as per modified NCEP-ATP III criteria. They were divided into two groups (with and without MetS), and their clinical and angiographic profiles were studied.

Result

The prevalence of MetS in our study was 30.3%. Patients in MetS group were older (36.30 ± 4.02 vs. 35.65 ± 3.57 years) with preponderance of men. Patients in MetS group had less tobacco abuse (50.0% vs. 69.56%), more alcohol abuse (80% vs. 26.08%), longer median hospital stay (4days vs 3days) and had more ST-segment elevation ACS (70.0% vs. 65.21%). Among the five components of MetS, high fasting blood glucose levels (100%) had highest positive predictive value for ACS, followed by high blood pressure (66.67%), increased triglyceride levels (35.71%) decreased HDL-C levels (32.0%), and increased waist circumference (31.58%). On echocardiographic evaluation, MetS group had lower mean ejection fraction vis-a-vis without MetS group (49.5 ± 4.47% vs 52.09 ± 7.9%). The angiographic profile in MetS group showed higher preponderance of triple vessel disease (70.0% vs. 30.43%) and more complex coronary lesions (tubular 60.0% vs. 26.08%; diffuse 40.0% vs. 39.13%). Left main coronary artery disease was more common in MetS population with predominance of proximal location of culprit plaques (70% vs. 69.56%).

Conclusion

In our study population of ACS patients below 40 years, prevalence of MetS was 30.3%. Among its components, high fasting blood glucose levels had highest positive predictive value for ACS. There was a trend of more advanced CAD in patients with MetS.