

Unstable angina in a young patient

Sir,

Atherosclerosis is the common cause of coronary artery disease (CAD), which primarily manifests in patients above the age of 40 years, however, the younger population can also be affected. The prevalence of CAD disease in the younger population (<40 years old) is difficult to accurately establish. Approximately 4% of patients with myocardial infarction are <40 years old.¹ The incidence of CAD increases with age. The association between many risk factors and atherosclerosis has been demonstrated in many prospective studies. The prevalence of these risk factors are varied with different age groups and sex of the patient.² The aim of this study was to analyze the risk factors and angiographic changes in young patients (below age of 40 years) with unstable angina. All records and coronary angiograms of patients below the age of 40 years admitted to the tertiary university hospital over a 10 year period were analyzed. There was a total number of 130 patients, with male to female ratio of 4:1, mean age for males was 37.2 years and for females was 35.6 years. Cigarette smoking was present in 94% of males and 69% of females. A positive family history was present in 77% of males and 73% of females. Hypertension was found in 11.5% of males, but none of the females. Diabetes mellitus was found in 4.8% of males and 7.7% of females. Mean cholesterol level was 6.9 mmol in males and 6.7 mmol in females. Mean triglyceride level was 2.7 mmol in males and 2.8 mmol in females. Coronary angiograms revealed left anterior descending coronary artery (LAD) involvement in 60 male patients (50 with severe stenosis grade 3, blocked in 8 patients), and in 14 female patients with severe stenosis grade 3. The right coronary artery (RCA) was involved in 30 males (20 with severe stenosis grade 3, blocked in 10 patients), and 4 females (3 severe stenosis, 1 blocked). Combined LAD and RCA involvement was found in 10 males and 2 females (severe stenosis). Circumflex (CX) was involved in 5 males and one female (severe stenosis). Diagonal branch was involved in 3 males and 2 females (severe stenosis). Normal coronaries were present in 4 males and 3 females. Left main stem and collateral vessel were not present on any of the angiograms. Left ventriculogram was normal in

100 males and 24 females. Our study shows that ischemic heart disease can affect young patients. Young patients with unstable angina usually have one or more risk factors. Our study shows that cigarette smoking and positive family history are the most common risk factors. A similar result was seen in other studies.^{2,3} Some studies have shown as many as 90-97% of these patients have one or more risk factors for atherosclerosis.³ Risk factor such as diabetes mellitus and hypertension are less common in younger patients with unstable angina than in elderly patients, which is also demonstrated in other studies.^{4,5} Hyperlipidemia is not as commonly present as cigarette smoking or positive family history.⁴ Our study revealed that single vessel with focal rather than diffuse disease is the main coronary lesion, and the LAD is more affected than other coronaries and left ventricular function was preserved.⁵ The prognosis of premature CAD is usually good as the disease is not diffuse and left ventricular function is preserved.⁵ As the life span expected in young patients is long, risk factors should be aggressively assessed and modified to improve survival. Primary prevention measures should be started as early as possible especially in patients with a positive family history.

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References

1. Fournier JA, Sanchez A, Quero J, Fernandez-Cortacen JA. Myocardial infarction in men aged 40 years or less, a prospective clinical-angiographic study. *Clinic Cardiol* 1996; 19: 631-636.
2. Stamler J, Stamler R, Neoton JD. Blood pressure, systolic and diastolic and cardiovascular risk. *Arch Intern Medicine* 1993; 153: 598-615.
3. Ambrose JA, Winters SL, Stern A, Eng A, Teichholz LE, Gorlin R et al. Angiographic morphology and the pathogenesis of unstable angina pectoris. *J Am Coll Cardiol* 1985; 5: 609-616.
4. Zimmerman FH, Cameron A, Fisher LA, Ng G. Myocardial infarction in young adults, angiographic characterization, risk factors and prognosis. *J Am Coll Cardiol* 1995 26: 654-661.
5. Chen L, Chester M, Kaski JC. Clinical factors and angiographic features associated with premature coronary artery disease. *Chest* 1995; 108: 364-369.