

CASE REPORT

Corneal arcus: An indicator of severe coronary artery disease in a young adult man

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Abstract: A 32-year-old man was transferred to our emergency service with the diagnosis of sudden cardiopulmonary arrest. During eye examination, a typical corneal arcus was observed. The patient underwent the primary percutaneous coronary intervention. Coronary angiography showed a total occlusion of proximal left anterior descending artery. Primary coronary balloon angioplasty was successfully performed. Independently of total cholesterol, serum high-density lipoprotein cholesterol and smoking, corneal arcus has been suggested as a predictor of coronary heart disease among hyperlipidemic men. Physical examination can yield valuable diagnostic clues in a patient suspected of ischaemic heart disease.

In summary, the appearance of corneal arcus in young adult men might be an indicator of severe coronary artery disease and should be screened by means of physical examination especially in the setting of cardiopulmonary arrest (Fig. 1, Ref. 4). Full Text (Free, PDF) www.bmj.sk.

Key words: corneal arcus, severe coronary artery disease, young adult man.

A 32-year-old man was transferred to our emergency service with the diagnosis of sudden cardiopulmonary arrest. Cardiopulmonary resuscitation was initiated immediately. During eye examination, a typical corneal arcus was observed (Fig. 1). After 15 minutes, the patient responded to cardiopulmonary resuscitation. Electrocardiogram revealed anterior myocardial infarction. The patient underwent primary percutaneous coronary intervention. Coronary angiography showed a total occlusion of proximal left anterior descending artery. Primary coronary balloon angioplasty was successfully performed. Apart from lipid abnormalities, he had no risk factors for coronary disease. He had severe dyslipidemia and coronary heart disease in his familial history. Serum blood for low-density lipoprotein cholesterol revealed 220 mg/dl.

Physical examination can yield valuable diagnostic clues in a patient suspected of ischaemic heart disease. A corneal arcus is a harmless gray-white circular deposition of cholesterol, triglycerides, phospholipids with a small amount of apolipoprotein B allocated near the periphery of the cornea like a white ring (1, 2). Although harmless with regard to vision, the appearance of arcus at a young age may indicate dyslipidaemia as in our case. Disorders of lipid metabolism as hyperlipidemia are associated with the formation of corneal opacities. For many years, corneal arcus has been documented as a normal age-related change. Corneal arcus is associated with elevated cholesterol, especially in the young. Our patient has familial hypercholesterolaemia. Familial hypercholesterolaemia may cause unexpected cardiovascular complications and sudden death of young persons. Independently from total cho-



Fig. 1. Corneal arcus.

lesterol, serum high-density lipoprotein cholesterol and smoking, corneal arcus has been suggested as a predictor of coronary heart disease among hyperlipidemic men aged 30–49 years (3, 4).

In summary, the appearance of the corneal arcus in young adult men might be a indicator of severe coronary artery disease and should be screened by means of the physical examination especially in the setting of cardiopulmonary arrest.

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