

Case Report

Frank's Sign: An Indicator for Premature Aging?

Vismay Naik*

Department of Medicine, BAPS Yogiji Maharaj Hospital, Ahmedabad, Gujarat, India

Case Report

Frank's sign (diagonal ear lobe crease) is a dermatological marker on the ear which extends from the tragus to the rear edge of the auricle. A positive correlation of Frank's sign with atherosclerosis and coronary artery disease is well known [1]. Recently, it has been shown to be associated with premature aging and loss of dermal and vascular elastic fibres [2]. Various studies have also shown an increase in the carotid Intimal Medial Thickness (IMT) and loss of carotid artery elasticity, with increasing age [3,4]. Raised carotid IMT for age indicates increased vascular age and premature aging [4].

We present a case of a patient, free of any clinical cardiovascular symptoms, who had Frank's sign on examination and was found to have increased carotid IMT for his age, suggesting premature vascular aging and indicating the association of Frank's sign to early aging.

A 50-year-old Asian Indian man came to the hospital for a routine health check-up. He was asymptomatic with only complain of occasional episodes of dizziness and "black outs". Patient denied any complaints of chest pain or shortness of breath at rest or on exertion. He was a tobacco chewer for the past 20 years with no significant past medical or family history of cardiovascular disease. On physical examination the patient was found to have bilateral diagonal earlobe creases as shown in figure 1. His blood pressure was 130/80 mmHg. His blood investigations showed hypercholesterolemia with an LDL of 180 mg/dl. His electrocardiogram was normal. Bilateral Carotid artery B mode ultrasonography showed an IMT of 1.2 mm in the right common carotid artery (Figure 2), the normal carotid IMT for his age being 0.56 mm to 0.71 mm [3]. This clearly suggested the patient was having increased vascular age (that of >70 years) and supports the correlation of Frank's sign with premature aging and loss of dermal and vascular elastic fibres. The patient was at increased risk for adverse cardiovascular events and was started on Aspirin and Atorvastatin for primary prevention.

*Corresponding author: Vismay Naik, Department of Medicine, BAPS Yogiji Maharaj Hospital, Ahmedabad, Gujarat, India, Tel: +91 9909929795; E-mail: vismay101@gmail.com

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Figure 1: Diagonal ear lobe crease.



Figure 2: Carotid Ultrasound showing increased carotid Intimal Medial Thickness (IMT).

(Normal IMT for age= 0.56 mm to 0.71 mm)

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