Clinical Images

Familial Frank's Sign: Diagonal Earlobe Creases and Premature Coronary Artery Disease Arturo Gasga, MD¹ and Binh An P. Phan, MD^{2,3}

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CASE

A 66-year-old man with history of premature coronary artery disease presented with chest pain. He experienced his first myocardial infarction at 50 years of age and had undergone three percutaneous coronary interventions. His father had a first myocardial infarction at the age of 50 years. On physical exam, he had bilateral diagonal earlobe creases or Frank's sign (Fig. 1). His father (Fig. 2) had similar earlobe creases.

Prior studies suggest that Frank's sign may be an independent predictor of significant coronary artery disease.^{1,2} Proposed mechanisms for the diagonal earlobe crease include premature degeneration of elastin fibers, shortened telomeres, and dysfunction of end arteries affecting blood supply.³ In a prospective study, Frank's sign was 90% sensitive and 32% specific for predicting significant coronary artery disease.² The presence of Frank's sign should raise suspicion for premature coronary artery disease and prompt consideration of aggressive medical management of cardiovascular risk factors. Although no inheritance pattern has been determined, this case is the first to illustrate a familial lineage of Frank's sign in two generations affected by premature coronary artery disease

Figure 1 Frank's sign of the 66-year-old patient (arrow).

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Figure 2 Frank's sign of the patient's father (arrow).

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Compliance with Ethical Standards:

Conflict of Interest: The authors declare that they do not have a conflict of interest.

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