International Journal of Advances in Medicine
*Rathi C et al. Int J Adv Med. 2014 May;1(1):66-67*
http://www.ijmedicine.com
pISSN 2349-3925 | eISSN 2349-3933
DOI: 10.5455/2349-3933.ijam20140518

## Images in Medicine

# Frank's sign: silent predictor of coronary artery disease

**Chetan Rathi, Sourya Acharya*, Bhavik Dhirawani**

Department of Medicine, Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha-442004, Maharashtra, India

**Received:** 10 April 2014
**Accepted:** 27 April 2014

***Correspondence:**
Dr. Sourya Acharya,
E-mail: souryaacharya@yahoo.co.in



A 60 year old non hypertensive, non diabetic male presented in casualty with complaints of exertional breathlessness of 2 days duration. ECG and cardiac enzymes were within normal limit. General physical examination was normal except for the finding of bilateral ear lobe creases (Figure 1 & 2). With the possibility of angina equivalent patient was posted for coronary angiography which revealed total occlusion of left anterior descending artery and right coronary artery, 80% obtuse marginal and 70% left circumflex artery. LVEF was 25% and patient was advised for high risk CABG. Creased earlobes (Frank's sign) were alleged to be associated with an increased risk of coronary artery disease.

More recent studies have concluded that, ear lobe creases are silent indicators of atherosclerotic vascular disease when they are not congenital. The explanation is non creased healthy ear lobes have a rich vascular supply. With age, diffuse atherosclerotic process withers this vascular supply and ear lobe collapses to form the crease linking generalized coronary atherosclerosis and CAD to the same.[1]

Ninety percent of patients with age over 50 years with significant triple vessel coronary disease have a deep ear lobe crease.[2] A unilateral ear lobe crease was found in one study to be associated with an intermediate degree of coronary obstruction.[3]

To conclude, Frank's sign should we consider a strong and independent risk factor for CAD though not diagnostic for the presence of CAD. Sensitivity of Frank's sign is 60%.[4]

*Funding: No funding sources*
*Conflict of interest: None declared*
*Ethical approval: Not required*

## REFERENCES

1. Medline Plus. Earlobe creases. Available at http://www.nlm.nih.gov/medlineplus/ency/article/003045.htm. Accessed 19 March 2014.
2. Constant J. Bedside cardiology, 5th Edition. Lippincott Williams & Wilkins, Wolters Kluwer Company; 2003:20.
3. Lichtstein E, Chapman I, Gupta PK, Chadda KD, Smith H Jr, Schwartz I, et al. Letter: Diagonal ear-lobe crease and coronary artery sclerosis. Ann Intern Med. 1976 Sep;85(3):337-8.
4. Elliott WJ, Karrison T. Increased all-cause and cardiac morbidity and mortality associated with the diagonal earlobe crease: a prospective cohort study. Am J Med. 1991 Sep;91(3):247-54.

DOI: 10.5455/2349-3933.ijam20140518
**Cite this article as:** Rathi C, Acharya S, Dhirawani B. Frank's sign: silent predictor of coronary artery disease. Int J Adv Med 2014;1:66-7.