

DIAGONAL EAR-LOBE CREASE: AN INDEPENDENT RISK FACTOR IN CORONARY HEART DISEASE?

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(A study conducted while final-year medical students)

A DIAGONAL ear-lobe crease as an independent risk factor in coronary heart disease was first suggested by Frank^{1, 2} in 1973 and further work by Lichstein and associates^{3, 4, 5} supported Frank's initial observations. One study by Christiansen J. S. and co-workers⁶ in Denmark went as far as to suggest a more positive correlation between the ear-lobe crease and coronary heart disease than between the accepted major risk factors of arterial hypertension, cigarette smoking and diabetes mellitus and coronary heart disease. Against this Mehta and Hamby⁷ showed no correlation between the ear-lobe crease and coronary heart disease and suggested a previously observed increase in incidence of ear-lobe creases with increasing age as the only important factor. With this as a background, we decided to undertake a small survey of patients with proven coronary heart disease to see if this easily detectable sign was relevant as a marker in patients at risk of coronary heart disease.

METHOD

During a two week period in December 1979, 23 patients with acute myocardial infarction in the coronary care units of the Ulster Hospital, Dundonald and the Royal Victoria Hospital, were examined for the presence of a diagonal ear-lobe crease. The ear-lobe crease was said to be present if it was either unilateral or bilateral. The patients were matched for age and sex with a group of 23 patients in general surgical wards in the same hospitals, who had no previous history of myocardial infarction, angina or intermittent claudication. The patients were all examined by the same observer.

RESULTS

	<i>Positive Ear-Lobe Crease</i>	<i>Negative Ear-Lobe Crease</i>	<i>Totals</i>
Patients with acute myocardial infarction	17	6	23
Controls	20	3	23
Totals	37	9	46

These results when submitted to a chi-square test, with the Yates correction for small numbers give a P value of 0.55. This is considered highly insignificant.

DISCUSSION

The possibility that the easily observed, diagonal ear-lobe crease might be an independent risk factor in coronary heart disease and might thus enable appropriate patients to be identified and encouraged as strongly as possible to reduce their exposure to other known risk factors e.g. cigarette smoking, is certainly an attractive idea. However, as is suggested by our results, it appears that in Northern Ireland the incidence of ear-lobe crease is not statistically higher in those people who have had an acute myocardial infarction, and so the identification of an ear-lobe crease does not have any significance as to the likelihood of there being any disease of their coronary arteries.

The number of patients and the time span of this survey were of necessity small, but the results are such, that the chance of them being misrepresentative of the general population of Belfast is extremely small. One point of interest, which may be of relevance to the conflicting results in the literature, is the different ethnic and racial backgrounds of the populations used in previous surveys—Frank in California; Lichstein and associates in New York; Kaukola⁸ in Finland and Christiansen and co-workers in Denmark, who all supported the correlations, and Rhoads and Yanok⁹ on Japanese in Hawaii; Mehta and Hamby in Long Island Jewish Hillside Medical Centre and ourselves in Northern Ireland, who do not support the correlation. The influence of the racial background would require much more detailed investigation.

METHOD

In a controlled study of 23 patients with acute myocardial infarction and 23 matched controls it was found there was no correlation between ear-lobe creases in the occurrence of myocardial infarction (or coronary artery disease).

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