A-23: Flow mediated vasodilation and nitroglycerine induced vasodilation are impaired in patients with typical angina and normal coronary arteriograms

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The specific mechanisms of chest pain in patients with typical angina and

normal coronary angiogram : syndrome X(X), has not been identified. To examine the hypothesis that such patient have an abnormal vasodilator response, flow mediated vasodilation (FMVD) and nitroglycerine mediated vasodilation(NTG), was studied in patients syndrome X, patients with established coronary artery disease (CAD), and healthy subjects (C). The mean age, sex, smoking history, serum cholesterol and diastolic blood pressure and blood glucose were not significantly different in the patient groups. The brachial artery diameter (D,cm), and peak Doppler velocity (V, cm/s) were obtained at rest, during maximal hypermia following 5 min of blood flow occlusion (FMVD), and following sublingual nitroglycerine, 0.4mg above the elbow during pulse diastole. There was no significant difference in resting D, V between groups.

Results: % change from rest (m $\pm$ sd).

	% Change diameter		*% Change velocity*	
	FMVD	NTG	FMVD	NTG
C° (n=10)	13.1 $\pm$ 4.4	21.5 $\pm$ 5.4	16 $\pm$ 24	22 $\pm$ 23
CAD (n=10)	4.4 $\pm$ 3.9*	12.2 $\pm$ 6.9#	14 $\pm$ 23	10 $\pm$ 11
X (n=7)	1.3 $\pm$ 2.3*	14.9 $\pm$ 5.5#	15 $\pm$ 21	18 $\pm$ 15

*$p<0.001$ vs # $p<0.01$ vs C

FMVD and response to sublingual NTG are reduced in patients with CAD and syndrome X. There was no significant difference in the FMVD and response to sublingual NTG in these two groups of patients. These data suggest that syndrome X patients have a generalized endothelial and vascular smooth muscle dysfunction.