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ANGINAL SYMPTOMS ARE NOT PREDICTIVE OF MYOCARDIAL PERFUSION OR FUNCTION IN DIABETICS

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**Background:** Patients with diabetes are more than twice as likely to die from coronary artery disease than non-diabetics. Deciding which diabetic patients require an aggressive workup, however, is challenging because their diabetic neuropathy may mask anginal symptoms. Thus, in diabetics, initiating a workup for coronary artery disease based exclusively on the presence or absence of symptoms alone may not be ideal. The objective of this study was to help determine whether or not the presence of anginal symptoms in diabetics can predict abnormal myocardial perfusion or function.

**Methods:** A retrospective review was made of 1074 consecutive patients presenting to an outpatient clinic for myocardial perfusion imaging. Clinical variables obtained included a history of hypertension, hyperlipidemia, a positive family history of coronary artery disease, diabetes, and smoking. Patients were categorized as asymptomatic if they had either no symptoms at all, or had nonanginal chest pain according to the Diamond and Forrester criteria. Patients were categorized as having angina if they had either suspected or definite angina (i.e. atypical or typical chest pain). These variables were then correlated with the scan findings of the summed stress score (SSS), summed difference score (SDS), left ventricular ejection fraction (LVEF), and the ratio of the post-stress to rest end systolic volume. Gated SPECT images were obtained using a single headed camera. The Cedars-Sinai QGS program was used to measure ventricular size and function.

**Results:** The average patient age was 63 +/- 13 years; 51% were men, and 21% were diabetic. Among all patients, the presence or absence of angina was significantly correlated with the SSS ($p=0.043$), the SDS ($p=0.040$), and the post-stress LVEF ($p=0.001$). However, among diabetics, anginal symptoms were not correlated with the SSS ($p=0.795$), the SDS ($p=0.888$), or the post-stress LVEF ($p=0.223$). Diabetics as a group (both asymptomatic and symptomatic) were more likely to have an elevated SSS ($p=0.006$), an elevated SDS ($p<0.001$), and an elevated post-stress to rest end systolic volume ratio ($p=0.013$).

**Conclusion:** Among all patients, the presence of anginal symptoms is strongly correlated with abnormal myocardial perfusion and function. In diabetics, however, anginal symptoms do not help predict whether or not myocardial ischemia or ventricular dysfunction is present. A symptom-based algorithm for the workup of coronary artery disease in diabetics is likely to be ineffective.