ACUTE CORONARY SYNDROMES USING CHEST PAIN TO DIAGNOSE ACUTE MI

A perception exists among physicians and the general public that women present with different symptoms from men when experiencing an acute myocardial infarction (MI). However, this idea is not supported by data from a study of 2,475 consecutive patients with acute chest pain, which showed no sex-specific differences in chest-pain characteristics that could be used to improve the diagnosis of acute MI.

Investigators from the ongoing Advantageous Predictors of Acute Coronary Syndrome Evaluation recruited 796 women and 1,679 men with acute chest pain, from nine centres in Italy, Spain, and Switzerland. Of these participants, 18% of the women and 22% of the men had a final diagnosis of acute MI. Possible sex-specific differences were investigated in 34 predefined chest-pain characteristics associated with location, size of area, pain quality, radiation, onset, duration, dynamics, aggravating or inducing factors, and relieving factors.

In the overall cohort, 11 characteristics were differentially reported between sexes. However, in those who were diagnosed with acute MI, only five characteristics (associated with pain radiation, duration, and dynamics) showed sex-specific differences. Most characteristics did not help to discriminate acute MI from other causes of acute chest pain in women or men. Only 'pain duration of 2–30 min', 'pain duration >30 min', and 'decreasing pain intensity' tended to increase the likelihood of a diagnosis of acute MI in one particular sex, but "because their likelihood ratios were close to 1, [they] did not seem clinically helpful," write the investigators.

In an associated editorial, Louise Pilote points out that, in this study, the women were on average 10 years older than the men (mean age 70 years versus 59 years), and a greater proportion of men than women had experienced a previous acute MI (28.2% versus 15.1%) or revascularization (32.9% versus 17.3%). These differences in baseline characteristics might have affected patient presentation. The lead investigator, Christian Mueller, concludes that "chest pain characteristics ... have only low-to-moderate accuracy for the diagnosis of a heart attack; [therefore] it is mandatory for physicians always to add two additional diagnostic tests ... the electrocardiogram and a blood test for cardiac troponins".

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Original article Gimenez, M. R. *et al.* Sex-specific chest pain characteristics in the early diagnosis of acute myocardial infarction. *JAMA Intern. Med.* doi:10.1001/jamainternmed.2013.12199