be important, and rigorous comparative designs using well-validated metrics are needed to best determine which interventions are truly effective.

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Conflict of Interest Disclosures: None reported.

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Sex-Specific Chest Pain Characteristics

To the Editor Rubini Gimenez et al[1] studied sex-specific chest pain characteristics (CPCs) with the objective of improving the management of women with suspected acute myocardial infarction (AMI). They collected an impressive number of baseline and chest pain characteristics in a large sample of patients with chest pain.

Unfortunately, the prevalence of CPCs in women was only compared with the prevalence of CPCs in men. Whether the prevalence of CPCs in women with AMI differed from women without AMI (and men with and without AMI) was not evaluated, while such an analysis would demonstrate which symptoms are related to AMI in women and which in men.

The knowledge that certain CPCs are more prevalent in women than in men is not that useful for a medical physician. In clinical practice either a man or a woman present themselves with certain symptoms, and therefore it is important to know which symptoms are predictive for a AMI in women and which in men.

The choice to use likelihood ratio as statistical test is unfortunate because it only evaluates 1 symptom at a time, while the diagnosis of AMI is a multivariable process. Moreover, the likelihood ratio does not provide the diagnostic value of the combination of CPCs in women and men. The diagnostic value, expressed as the area under the curve or C statistic, shows in how many women and men an AMI can be diagnosed based on the CPCs present. This quantification combines the CPCs in 1 person as is done in clinical practice. In addition, it allows a direct comparison between sexes.

Possibly the authors could still carry out these analyses and report their findings, as this will definitely contribute to the current knowledge about this topic.

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1. Rubini Gimenez M, Reiter M, Twerenbold R, et al. Sex-specific chest pain characteristics in the early diagnosis of acute myocardial infarction. *JAMA Intern Med*. 2014;174(2):241-249.

In Reply We wish to thank van der Meer and colleagues for their interest in our work.[1] We fully agree that a comparison of the prevalence of chest pain characteristics (CPCs) in women with that in men would not be of major help to clinicians. Therefore, one of the most important novel findings of our analysis was the comparison of the prevalence of CPCs in women with acute myocardial infarction (AMI) with the prevalence of CPCs in women with a final diagnosis other than AMI. As also stated by van der Meer and colleagues, that is the question asked by clinicians. The answer to that question is provided by displaying the likelihood ratios for each CPC individually for women and men in Figure 1 and Table 3 in our article.[1] In addition, to determine if some CPCs help to better differentiate women with AMI from women with other final diagnosis as they do in men, Figure 1 and Table 3 in our article[1] display the *P* value for interaction to show whether some of the CPCs provide sex-specific diagnostic information for the detection of AMI.

We also fully agree that the diagnosis of AMI is a multivariable process and that the area under the curve or C statistic could be used for further analyses. This, however, is useful only for continuous variables, not dichotomous variables such as CPCs. Therefore, we are currently developing a clinical score combining data from patient history including CPC and electrocardiographic findings into a quantitative score that can then be evaluated and validated by using the area under the curve or C statistic.

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1. Rubini Gimenez M, Reiter M, Twerenbold R, et al. Sex-specific chest pain characteristics in the early diagnosis of acute myocardial infarction. *JAMA Intern Med*. 2014;174(2):241-249.

Effect of Wine Consumption on Mortality

To the Editor In their study of the effect of resveratrol on mortality, Semba and colleagues[1] found that the alcohol intake of

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those who were alive after the 9-year study was only slightly higher (and not statistically significant) than the alcohol intake of those who died during the 9 years of the study. Similarly, the total urinary resveratrol metabolites were not significantly higher in the group who were alive.

Not surprisingly, because of their generally longer life expectancy, there was a higher percentage of women in the surviving group than there was in the group who died. This is important because women drink less wine compared with men (see Table 1 in the study by Tjønneland et al[2]). (Even though men prefer beer over wine and women prefer wine over beer, the average man consumes more wine compared with the average woman.[2]) As an extreme example, if the people who died during the 9 years of the study had all been men and the people who survived had all been women, the results would have shown that people who survive drink less wine. To avoid this effect, could Semba and colleagues perform their analysis (a comparison of those who died vs those who were alive) again, once for men only and once for women only?

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1. Semba RD, Ferrucci L, Bartali B, et al. Resveratrol levels and all-cause mortality in older community-dwelling adults. *JAMA Intern Med*. 2014;174(7):1077-1084.

2. Tjønneland A, Grønbaek M, Stripp C, Overvad K. Wine intake and diet in a random sample of 48763 Danish men and women. *Am J Clin Nutr*. 1999;69(1):49-54.

In Reply In the original analysis in our article,[1] we found no significant relationship between quartiles of total urinary resveratrol metabolites and all-cause mortality in the multivariable Cox proportional hazards models after adjusting for sex and other potential confounders. We have performed the analyses stratified by sex, as requested by Glaser. The results show that there was no significant relationship between quartiles of total urinary resveratrol metabolites and all-cause mortality for either men or women (**Table**). This additional analysis shows no differences by sex between resveratrol and mortality.

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Conflict of Interest Disclosures: None reported.

1. Semba RD, Ferrucci L, Bartali B, et al. Resveratrol levels and all-cause mortality in older community-dwelling adults. *JAMA Intern Med*. 2014;174(7):1077-1084.

Table. Relationship Between Total Urinary Resveratrol Metabolites and All-Cause Mortality in Separate Multivariable Cox Proportional Hazards Models[a]

	HR (95% CI), Quartiles of Total Urinary Resveratrol Metabolites, nmol/g Creatinine				
Sex	<1554	1554-4996	4996-15 010	>15 010	*P* Value for Trend Across Quartiles
Men only	0.76 (0.43-1.33)	0.92 (0.54-1.58)	0.73 (0.45-1.21)	1 [Reference]	.45
Women only	0.76 (0.41-1.40)	1.07 (0.58-1.96)	0.84 (0.44-1.61)	1 [Reference]	.49

Abbreviation: HR, hazard ratio.

[a] Covariates in the model include age, education, body mass index, physical activity, total cholesterol, high-density lipoprotein cholesterol, Mini-Mental State Examination score, mean arterial pressure, and chronic diseases (coronary heart disease, heart failure, stroke, peripheral artery disease, diabetes, cancer, and chronic kidney disease).

LESS IS MORE

Evaluating Clinical Management Decisions by Recent Graduates in the Era of High-Value, Cost-Conscious Care

To the Editor Sirovich and colleagues present an interesting article on the association of the intensity of the internal medicine (IM) training environment and clinical management decisions made by graduates of US IM residency programs.[1] However, their results have several limitations.

First, the American Board of Internal Medicine (ABIM) examination is an excellent test of applied knowledge and clinical management decisions on 1 day; it often reflects how well candidates have studied for the test and their ability to use effective test-taking strategies to select the right answer on the test. It does not necessarily correlate with a physician's everyday management decisions, case mix, referral patterns, actual clinical practice, or outcomes. Examination scores on the Medical Council of Canada Qualifying Examination have been shown to predict practice performance over 4 to 7 years.[2] However, there is no evidence that this is the case with the ABIM examination.[3]

Second, the observed difference in clinical practice between internists who were trained in less-aggressive environments compared with those who had trained in more-aggressive environments likely reflects institutional bias and confounding. It appears too simplistic to infer that the less-intense clinical exposure you get as a resident, the better your ability at practicing conservatively unless other factors such as type of institution (academic vs community), institutional culture of clinical care, or case mix are playing a role.[3]

Third, patient preference is a key determinant of where and how much aggressive clinical care is delivered. There is evi-

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