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Serum Angiotensin-Converting Enzyme Has a High Negative Predictive Value in the Investigation for Systemic Sarcoidosis

REPLY

WE THANK DR GROEN AND DR EURELINGS FOR THEIR INTEREST in our recent publication[1] and for the opportunity to discuss screening investigations for systemic sarcoidosis in further detail.

Undifferentiated uveitis is a common presentation to general ophthalmology clinics, and screening for systemic disease is of value to help refine treatment strategies, to give prognostic information to the patient, and to identify and manage any systemic complications. In screening for sarcoidosis, the most valuable assessment is the history and clinical examination. However, investigations also play a role, in particular serum angiotensin-converting enzyme (ACE), lymphocyte count, lung imaging (chest radiograph and/or computed tomography chest), and biopsy.[2,3]

We agree that sensitivity and specificity will vary depending on the cut-off used. AUC provides a useful comparison in test results where a range of cut-offs have been used. We reported positive and negative predictive value, along with the prevalence of sarcoidosis in our population, as these are commonly understood values used by clinicians. Positive and negative predictive value are influenced by the prevalence of disease within the population, and thus a more accurate portrayal would be to report positive and negative likelihood ratios to compare pretest and posttest likelihood of sarcoidosis.[4] For our sample, a negative serum ACE gives a likelihood ratio of 0.24, meaning that, for a given pretest likelihood, the chance of having sarcoidosis decreased by around a quarter in the presence of a negative serum ACE. For those with a low pretest likelihood, this would obviate further testing. In contrast, an elevated serum ACE has a likelihood ratio of 7.81, meaning that the chance that this subject has sarcoidosis is almost 8 times higher than the pretest likelihood.

For those with a high pretest likelihood of sarcoidosis, we recommend further testing as directed by the clinical history and examination.

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