

Does severity of psoriasis increase coronary artery calcification?

Dear Editor,

We appreciate the article 'Prevalence and extent of subclinical atherosclerosis in patients with psoriasis' written by KH Yiu *et al.* and read with great interest [1]. The study concluded that patients with psoriasis had a higher prevalence of coronary atherosclerosis (coronary calcification score (CCS) > 0; 28.6% vs. 3.9%, $P < 0.01$) and a higher degree of coronary atherosclerosis estimated by the mean CCS (67.4 ± 349.2 vs. 0.5 ± 3.0 , $P < 0.05$) compared with controls. Similarly, carotid intima-media thickness (cIMT) was significantly greater in patients with psoriasis than in control subjects. Multiple logistic regression revealed that psoriasis and serum total cholesterol level were associated with the presence of coronary atherosclerosis (CCS > 0) [1]. The subject is important in terms of our daily practice, and the study deserves emphasizing with its successful design and results.

Coronary calcium testing is used in asymptomatic patients to purify their clinically predicted risk of incident coronary heart disease (CHD) except the standard cardiac risk factors. Although a small part (approximately 20%) of plaque is calcified, coronary artery calcium is generally present in atherosclerosis.

As we know, in both men and women, CCS detected is highly sensitive for the presence of $\geq 50\%$ angiographic stenosis but only moderately specific [2]. Both sensitivity and specificity vary with the degree of CCS. The magnitude of this effect was illustrated in a study of 1764 patients with suspected CHD [2]. As the Agatston CCS varied from >20th percentile to >75th percentile for age, the sensitivity fell from 97 to 81% in men and from 98 to 76% in women, but the specificity increased up to 77%. It is concluded that CCS cannot be recommended as a screening tool for the diagnosis of obstructive CHD because of its low specificity, with a resulting high false positive rate when the test is applied to low-risk populations [3]. In this study [1], the psoriasis group was in low-risk group in terms of the risk of developing CHD when classified according to age, gender and symptoms. It would be better; the authors gave information about this factor. They could emphasize that the

false positive results may be obtained due to the low specificity of the CCS system in this group of patients.

In addition, in previous study, 11,815 subjects who had CCS of 0 had a low rate of events over the subsequent 3–5 years. Compared with a CCS of 0, a CCS score between 100 and 400 indicated a score of 4.3 (95% CI 3.5–5.2; $P < 0.0001$), a score of 400–1000 indicated a relative risk of 7.2 (95% CI 5.2–9.9; $P < 0.0001$) and a score >1000 [3]. Yiu *et al.* [1] showed patients with psoriasis had a mean CCS (67.4 ± 349.2). These patients should be followed clinically determined to risk of CHD development will be an important contribution to the literature.

Psoriasis is a chronic immune-mediated inflammatory disease [4]. Psoriasis is concomitant with several cardiovascular manifestations, in part because of accelerated atherosclerosis [5]. Yiu *et al.* [1] showed the Psoriasis Area and Severity Index (PASI) score was not predictive of cIMT in simple linear regression analysis. Besides, PASI score was significantly greater in patients with coronary atherosclerosis (CCS>0) than in without coronary atherosclerosis (CCS=0) (18.3 ± 10.8 vs. 12.6 ± 8.6 , $P = 0.04$). Univariate analyses were performed to determine the clinical predictors of the presence of coronary atherosclerosis (CCS>0). In multivariate analyses, only total serum cholesterol level and psoriasis remained independently associated with coronary atherosclerosis. In this study [1], PASI score has not been taken in univariate analysis. We believe that the evaluation of the relationship between PASI score and CCS is important because it will help us to understand the relationship between disease severity and severity of atherosclerosis in patients with psoriasis.

Conflict of interest statement

There is no conflict of interests.

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