Letter to the Editor:

Is the routine screening for significant atherosclerotic renal artery stenosis during coronary angiography/intervention indispensable?

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We read the article "Screening for significant atherosclerotic renal artery stenosis with a regression model in patients undergoing transradial coronary angiography/intervention" by Pu *et al*. (2012), published in *Journal of Zhejiang University-SCIENCE B (Biomedicine & Biotechnology)*, with great interest. Of particular interest to us was the part considering the logistic regression model in this specific cohort of patients for future screening for significant atherosclerotic renal artery stenosis (ARAS). Although arteriography represents the gold standard for evaluation of ARAS, this exam is invasive and requires nephrotoxic iodinated contrast media which makes it less suitable as a first option for diagnosis or screening. Several non-invasive assessment tools, such as Doppler ultrasound and non-enhanced magnetic resonance angiography, have high sensitivity and specificity rates, but also have certain shortcomings.

It seems that the invasive approach presented is too aggressive, considering the results of the regression analysis in this paper (Pu *et al*., 2012); clearly, patients with these variables can be suspected of having significant ARAS.

Also, the study design indicates that the primary indication for angiography was coronary artery disease, and that renal angiography was also performed after the completion of coronarography. The results from Table 1 of Pu *et al*. (2012) seem puzzling as more than half of the patients (*n*=805, 54.2%) had normal coronary angiograms.

Although several authors (Alpert, 1994; da Costa *et al*., 2001; Bugiardini and Bairey Merz, 2005) have described a small series of myocardial infarctions occurring in patients with normal coronary arteries, the incidence of such events is considered to be low, varying from 1% to 12%. Based on this finding, our question is: what was the indication for coronarography in these patients, or how did the authors define the term "normal" in relation to coronary arteries?

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Authors' response

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We are grateful for the constructive comments given by Babic *et al.* (2013) on our article recently published in the *Journal of Zhejiang University-SCIENCE B (Biomedicine & Biotechnology)* (Pu *et al.*, 2012). The aim of this study was to generate a logistic regression model to predict the presence of significant atherosclerotic renal artery stenosis (ARAS) defined as luminal diameter stenosis ≥70% of uni- or bilateral renal arteries using clinical, biochemical, and angiographic factors. Although others have used less severe stenosis criteria (<50% luminal diameter narrowing), we believe that renal intervention may be more likely considered for patients with significant ARAS. Likewise, since the mortality risk depends highly on the severity of ARAS, significant ARAS should not be mis-diagnosed during coronary intervention via transradial access (White and Olin, 2009). We agree with Babic *et al.* (2013) that our regression model may be applied in a particular circumstance, and some patients without all risk factors as indicated in our regression model could be suspected for the presence of significant ARAS.

The classification of significant coronary artery disease as the angiographic percent stenosis ≥70% at the site of coronary artery lesions is to some extent arbitrary. However, within the range of angiographically significant coronary artery disease including lesions of ≥70%, this criterion of stenosis severity has been correlated with physiologic significance, has relevance to commonly applied angiographic standards, and is widely accepted clinical practice (Scanlon *et al.*, 1999). In this study, patients with 0-vessel disease were those without significant coronary disease, including normal coronary artery and mild to moderate coronary stenosis.

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