Reviewer's report

Title: Association between human cartilage glycoprotein 39(YKL-40) and arterial stiffness in essential hypertension

Version: 2 Date: 2 November 2011

Reviewer: Jens Dr Kastrup

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The aim of the study was to investigate the relationship between YKL-40 and arterial stiffness in patients with untreated hypertension.

The patients and the method used seem appropriate for the study. The study demonstrated higher YKL-40 levels in hypertensive patients and increasing with microalbuminuria compared to a control group. There was a significant positive association between YKL-40 and arterial stiffness and pulse wave velocity; and a negative association to distensibility. The multivariable analyses demonstrated that YKL-40 was the main determinant of femoral artery stiffness.

Comments

It is an interesting study investigating the value of YKL-40 measurement in untreated hypertensive patients and its relation to vascular function.

There is missing the multivariable analyses of the association between YKL-40 and pulse wave velocity (positive association) and distensibility (negative association). These information’s are of importance for the interpretation of the results.

It would be interesting to investigate/follow YKL-40 levels and vascular function tests after initiation of hypertensive treatment and normalization of blood pressure.

The discussion is too long and a little unfocused.

Several studies have demonstrated an association between YKL-40 and hypertension. However, this is not a part of the discussion. (Eur Heart J. 2009 May;30(9):1066-72)

There has been demonstrated an association between YKL-40 and cardiovascular disease. Scand Cardiovasc J 2008;10:1-8. Did the present patients have any history of cardiovascular disease, which potentially could influence the results?

Did the patients received any medication since i.e. statin is associated with decreased levels of YKL-40 (Inflamm Res 2011 Mar;60(3):261-287) and heart failure medication with increased levels (Eur Heart J. 2009 May;30(9):1066-72).

The language and the errors in the text should be improved and corrected.
Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
'I declare that I have no competing interests'