Reviewer's report

Title: Human antimicrobial peptide LL-37 is present in atherosclerotic plaques and induces death of vascular smooth muscle cells: a laboratory study

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Reviewer: Adrian H. Chester

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General
Ciornei and colleagues examine the action of the antimicrobial peptide LL-37 on vascular smooth muscle cells and describe its presence in human atherosclerotic plaques. The neointima of atherosclerotic aortae were shown to contain LL-37 that was associated with macrophages. In vitro LL-37 was able to increase apoptosis and change membrane permeability in specific sub-sets of cells. The authors conclude that LL-37 may play a role as a mediator of vascular smooth muscle cell death seen in atherosclerosis.

This is a novel, well-performed and accurately described study. The action of this peptide has not been widely studied in the vasculature, and the current findings demonstrate an important functional role for the peptide as well as demonstrating its presence in diseased human specimens.

In the clinical samples was there an association between the location of LL-37 and apoptotic cells or the severity/stability of the lesion?

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)