Reviewer's report

Title: Can pulsed ultrasound increase tissue damage during ischemia? A study of the effects of ultrasound on infarcted and non-infarcted myocardium in anesthetized pigs

Version: 2 Date: 17 February 2005

Reviewer: Eugenio Picano

Reviewer's report:

General
This is a very timely study showing that prolonged ultrasound exposure can increase histologically assessed tissue damage in non-infarcted and infarcted myocardium in an experimental pig model. What is important to the reader is to clearly understand how these results are relevant to the clinical model of diagnostic ultrasound, since biological effects of ultrasound are expected to be dependent upon fundamental frequency, intensity of energy and duration of exposure.

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

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

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Discretionary Revisions (which the author can choose to ignore)

Your frequency (1 MHz) is very close to 1.6 MHz (which is the lowest frequency used in cardiac diagnostic ultrasound). Your intensity is 0.1 W/cm² (and diagnostic ultrasound with pulsed ultrasound may have a Spatial Average Temporal Average intensity of 1900 mW/cm²). Your duration of exposure is 1 hour (and a diagnostic examination can have an imaging time close to 30’).

Please, highlight and comment these points more extensively in your discussion. Put also your data in the perspective of other data, which used different frequencies, intensity, duty cycle, and duration of exposure (possibly summarizing in a Table data from clinical studies).

What next?: Accept after discretionary revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

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