Reviewer's report

Title: Heart failure monitoring with a CRT device-based cardiac contractility sensor: a case series.

Version: 1 Date: 7 September 2013

Reviewer: ARMANDO GARDINI

Which of the following best describes what type of case report this is?: Other

If other, please specify:

New monitoring/diagnosing technique

Has the case been reported coherently?: Yes

Is the case report authentic?: Yes

Is the case report ethical?: Yes

Is there any missing information that you think must be added before publication?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: No

Does the case report have explanatory value?: No

Does the case report have diagnostic value?: Yes

Will the case report make a difference to clinical practice?: Yes

Is the anonymity of the patient protected?: Yes

Comments to authors:

Minor issues not for publication: please, specify the device combined with the atrial lead in the "Introduction" rather than at the beginning of "Case reports" paragraph.

General comment: the paper presents an interesting case series regarding a new possibility for diagnosing/monitoring heart failure patients implanted with CRT devices as encountered in daily clinical practice through an implantable device-derived signal.
Some revisions would be appreciated before acceptance.

First: In the "Case series" the first patient showed a rapid improvement both in clinical status and in cardiac contractility after CRT (3 weeks). It would be interesting to know if such a rapid improvement was due only to optimized CRT through device self-adjusting parameters or even to possible concomitant therapy changes or to any form of myocardial revascularization.

Second: In the "Case series" the third patient showed a decline in cardiac contractility signal with concomitant clinical worsening due to atrial fibrillation. It is not clear how the patients re-gained sinus rhythm and if the clinical improvement was due to therapy modification or simply to sinus rhythm restoration. At this regard it would be very nice to show in the third figure a longer follow-up including the trend of SonR signal after persistence of sinus rhythm. An improved value would confirm the significance of signal variations combined with clinical status modifications. An unchanged trend would be commented (for example: delayed recovery of tachycardia-related cardiac dysfunction ?).

Third: In the "Discussion" the authors correctly emphasize the current limitations of this kind of signal monitoring and the need of further validation. However it would be useful to briefly mention also the fact that only multiple sensor based strategies (designed to monitor different aspect of heart failure syndrome) can prove more useful for heart failure patients treatment than monitoring any one individual parameter (for example: Cowie et. al Eur Heart J 2013; 34: 2472-80).

Quality of written English: Acceptable

Declaration of competing interests:

'I declare that I have no competing interests'