16° CONGRESSO NAZIONALE AIAC
Bologna
11-12 aprile 2019
BOLOGNA CONGRESSI
AIAC
Associazione Italiana Aritmologia e Cardiostimolazione

TOWARDS A CARDIAC RESYNCHRONIZATION THERAPY WITH A "QUASI-NORMAL" QRS

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ABSTRACT

AIM. To achieve a better CRT with a QRS approximating normal width and axis ("quasi-normal"), by using non-conventional pacing configurations.

METHODS. In 12 patients, who had advanced HF despite conventional CRT (n=4) or had sub-optimal de-novo CRT implantation, because of persistently wide QRS and/or not optimal CS anatomy (n=8), a lead was added in a second CS branch or in the His bundle; QRS and dyssynchrony assessed by means of speckle tracking strain analysis were acutely evaluated during various pacing configurations.

RESULTS. A QRS width ≤120 ms or a "quasi-normal" morphology were achieved in 8 (67%) patients. The best configuration was triple-site in 7, His-plus-CS in 3, His pacing alone in 1 and conventional CRT in 1. Compared to conventional, the final configuration shortened QRS of 36±23 ms (from 170±32 ms to 134±20 ms, p=0.0002) and reduced radial strain dyssynchrony from 167±50 ms to 57±17 ms (p=0.08).

CONCLUSION. A "quasi-normal" QRS could be achieved in most patients using non-conventional CRT pacing configurations.