

P1168

Redefining first degree AV block: constant fusion pacing CRT is easier in longer PR interval patients

Vacarescu C.¹; Luca CT.²; Petrescu L.³; Mornos C.²; Goanta EV.¹; Crisan S.²; Lazar MA.³; Cozlac RA.³; Cozma D.²

¹University of Medicine Victor Babes, Timisoara, Romania

²Timisoara Institute of Cardiovascular Medicine, Timisoara, Romania

³University of Medicine Victor Babes, Cardiology Department, Timisoara, Romania

Background: LV only pacing is non-inferior to BiV pacing, and recent publications showed that DDD CRT without RV lead is safe in patients with normal atrioventricular (AV) conduction, although there are no device algorithms available for fusion pacing and PR interval variability is understudied in this population. Purpose: To analyse AV behaviour in pts with DDD CRT and the impact to effective fusion maintenance.

Methods: Consecutive pts with right atrium/left ventricle (RA/LV) DDD CRT pacing system were included. Prospective data were collected at every 6 months follow-up visits: device interrogation, exercise test (ET), echocardiography. CRT assessment during ET analysed loss of LV capture with special focus on maintaining constant fusion pacing during exercise. We defined 2 groups of pts: longer PR interval pts (200-250 ms) and normal PR interval pts (<200 ms). In case of LV loss of capture or unsatisfactory LV fusion pacing, device reprogramming was performed individualised for each patient and BB/ivabradine dose titration was done to achieve stability of PR spontaneous interval. Patients were rescheduled in no later one month to be reassessed by ET.

Results: 55 pts (29 male) aged 62 ± 11 y.o. were included, 36 pts with normal PR and 19 pts with longer PR. During follow-up (45 ± 19 months), a total of 235 ETs were performed with mean exercise load 118 ± 35 watts. In the normal PR group 14 pts (39%) had inadequate pacing or loss of LV capture during ET due to physiological shortening of PR interval vs. 4 pts (21%) in the long PR group. Loss of LV capture by exceeding maximum tracking rate (MTR) was noted in 6 pts (17%) with normal PR vs. 2 pts (11%) with longer PR. Post ET device optimisation included: reprogramming rate adaptive AV interval (23 ± 8 ms decrease in normal PR pts vs. 12 ± 7 ms in longer PR pts, $p < 0.0001$) and individualised programming of MTR. BB/ivabradine optimisation was performed in 32% of pts with normal PR vs. 13% of pts with longer PR.

Conclusions: A lower rate of optimisations after exercise test was needed in pts with a slightly longer AV conduction to achieve stability of fusion pacing DDD CRT without device algorithms. Larger studies are needed to assess AV conduction variability and the benefits of fusion pacing CRT in pts with longer PR interval.

Abstract Figure.

