The patients with severe heart failure: central role of echocardiography in indication of optimal treatment — two cases

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In our poster presentation we present two cases of patients with severe advanced heart failure. The patients were sent to echocardiography assessment with a history of several week's of progressive dyspnoea and left bundle block on ECG.

Patient 1: Man, born 1958, smoker, negative family history. 5/2009 two month progressive dyspnoea; NYHA III/IV; on ECG: LBBB; echocardiography: EF 25%, diffuse hypokinesis. 6/2009 CABG (RIA LIMA, RMS); NYHA III. 11/2009 Implantation BIV ICD; NYHA II/III. Th: furosemid 40 mg, atorvastatin 20 mg, aspirin 100 mg, carvediol 2x12,5 mg, ramipril 5 mg, spironolactone 25 mg daily. 11/2010 start with ivabradine therapy 2x5 mg daily. 03/2011 echocardiography: improvement diameter of LA, LV, EF 40%, NYHA II.

Patient 2: Man, born 1954, smoker, businessman. Two month worsening of dyspnoea, NYHA IV at the time of admission. Echocardiography: EF 20%; ECG: LBBB; BP 160/110, P 98. SCG: nonsignificant changes of coronary arteries. Th: furosemid 40mg, perindopril 5mg, atorvastatin 20 mg, aspirin 100 mg, carvediol 2x6,25 mg (fatigue after higher doses of carvediol). 6/2011 echocardiography: EF 35%; NYHA III. 8/2011 adding ivabradine 2x5 mg daily. Last control echocardiography: EF 40-45%; NYHA II.

Conclusion: The central role of careful echocardiography follow up of heart failure patients is essential for optimal pharmacology therapy management, including ivabradine addition to the therapy. Our case results correlate with ECHO sub-study conclusion of SHIFT study. We show schematically in diagrams the significant improvement of echocardiography parameters after ivabradine addition. The good clinical status correlates with lowering of level NT pro BNP too.

KEYWORDS: heart failure, echocardiography, ivabradine.

CITATION: Cardiol Croat. 2013;8(9):288-289.

Received: 1st Aug 2013

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Figure 1A. Patient 1: Heart frequency control, BIV-ICD implantation and after addition of ivabradine to heart failure therapy.

Echocardiography E/É-LV	LA mm	LV d	EF	
5/09	54	70	25%	18
6/09 po CABG	54	68	25-30%	10
11/10 BIV-ICD	52	56	30-35%	4,9
03/11 3 month therapy ivabradine	38x42	57	40%-45%	4

Figure 1B. Patient 1:
Echocardiography follow up, progressive improvement LA, LV parameters and E/É ratio (noninvasive assessment of left ventricle filling pressure).

Figure 1C. Patient 1:
Lowering of NT-pro BNP below 80 ug/ml during therapy and after addition of ivabradine.

Literature

1. Cohn JN, Ferrari R, Shape N. Cardiac remodeling-concepts and clinical implications:a consensus paper from an International forum on remodeling On Behaf of an International Forum on Cardiac Remodeling. J Am Coll Cardiol. 2000;35:569-82.
2. Swedberg K, Komajda M, Bohm M, et al. Ivabradine and outcome in chronic heart failure /SHIFT/: a randomised placebo-controlled study. Lancet. 2010;376:875-85.
3. Lang RM, Bierig M, Devereux RB, et al; Chamber Quantification Writing Group; American Society of Echocardiography's Guidelines and Standards Committee; European Association of Echocardiography. Recommendations for chamber quantification: a report from the American Society of Echocardiography's Guidelines and Standards Committee and the Chamber Quantification Writing Group, developed in conjunction with the European Association of Echocardiography, a branch of the European Society of Cardiology. J Am Soc Echocardiogr. 2005;18:1440-63.