Cardiac resynchronization therapy in the Czech Republic in the context of European experience

Authors:
A Bulava¹, P Hajek¹, J Kautzner², K Sedlacek², P Parizek³, P Neuzil⁴, R Polasek⁵, J Vecera⁶, P Osmancik⁷, J Chovancik⁸, M Kubickova⁹, D Sipula¹⁰, K Dickstein¹¹, C Linde¹², C Normand¹¹, ¹Ceske Budejovice Hospital, Department of Cardiology - Ceske Budejovice - Czech Republic, ²Institute for Clinical and Experimental Medicine (IKEM) - Prague - Czech Republic, ³University Hospital Hradec Kralove, I Internal Cardioangiology Department - Hradec Kralove - Czech Republic, ⁴Na Homolce Hospital, Department of Cardiology - Prague - Czech Republic, ⁵Regional Hospital Liberec, Department of Cardiology - Liberec - Czech Republic, ⁶Regional Hospital Pardubice, Cardiology center AGEL - Pardubice - Czech Republic, ⁷Faculty Hospital Kralovske Vinohrady, III Department of Internal Medicine – Cardiology - Prague - Czech Republic, ⁸Hospital Podlesí, Department of Cardiology - Trinec - Czech Republic, ⁹Masaryk Hospital, Department of Cardiology - Usti nad Labem - Czech Republic, ¹⁰University Hospital Ostrava, Cardiovascular Department - Ostrava - Czech Republic, ¹¹Stavanger University Hospital - Stavanger - Norway, ¹²Karolinska University Hospital - Stockholm - Sweden.

On behalf: Czech CRT investigators

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Introduction: Cardiac resynchronization therapy (CRT) has been proven to lower mortality and morbidity in selected patients with chronic congestive heart failure. The first prospective ESC (European Society of Cardiology) registry showed that indications for CRT were broadly extrapolated to groups of patients, who were not adequately represented in published randomized trials. Significant differences were also documented regarding implantation techniques between different regions and countries. The goal of this article is to explore the second international registry EHRA CRT II Survey and compare the data retrieved from this registry to common clinical practice in the Czech Republic.

Methods: Two ESC associations, the EHRA (European Heart Rhythm Association) and the HFA (Heart Failure Association) designed a second prospective survey to describe current clinical practice regarding CRT. The Registry included data on 11,088 patients from 42 ESC member states (ESCMS). In the Czech Republic, 14 centers agreed to participate and finally, 10 actively enrolling centers contributed data.

Results: Data from 931 patients (mean age 69.4 ± 9.9 yr, 23% women) were evaluated. Mean procedural and X-ray times were significantly lower in the Czech Republic compared to the overall data. Biventricular cardioverter-defibrillators compared to biventricular pacemakers were implanted more often in the Czech Republic (OR 1.74 95% CI 1.47-2.05, p < 0.0001). CRT devices were most often implanted by electrophysiologists (OR 6.18, 95% CI 4.56-8.37, p < 0.0001) and patients presented less often with a typical left bundle branch block ECG pattern (OR 0.54, 95% CI 0.47-0.62, p<0.001), and more often with atrial fibrillation (OR 1.32, 95% CI 1.15-1.51, p < 0.001). Telemedical monitoring was used less in the Czech Republic compared to the rest of the ESCMS (OR 0.41, 95% CI 0.34-0.49, p < 0.0001).

Conclusion: Comparisons of data derived from the Czech Republic with the other ESCMS data set showed that the Czech Republic is among the top 10 countries with respect to the number of procedures, implantation
success, and low complication rates. However, use of telemonitoring systems is rather low compared to the European average. A significant number of patients were indicated for CRT based on indications not covered by the Class I of the current recommendations (i.e., those with the best evidence).