

J Cardiovasc Med (Hagerstown). 2014 Feb; 15(2): 147-154

Cardiac resynchronization therapy: implant rates, temporal trends and relationships with heart failure epidemiology

Boriani G1, Berti E, Belotti LM, Biffi M, Carboni A, Bandini A, Casali E, Tomasi C, Toselli T, Baraldi P, Bottoni N, Barbato G, Sassone B; RERA (Registry of Emilia Romagna on Arrhythmia Interventions) Investigators

From Collaborators (56), Marino M, De Palma R, Grilli R.

BACKGROUND

Consensus guidelines define indications for cardiac resynchronization therapy (CRT), but the variability in implant rates in 'real world' clinical practice, as well as the relationship with the epidemiology of heart failure are not defined.

METHODS AND RESULTS

In Emilia-Romagna, an Italian region with around 4.4 million inhabitants, a registry was instituted to collect data on implanted devices for CRT, with (CRT-D) or without defibrillation (CRT-P) capabilities. Data from all consecutive patients resident in this region who underwent a first implant of a CRT device in years 2006-2010 were collected and standardized (considering each of the nine provinces of the region). The number of CRT implants increased progressively, with a 71% increase in 2010 compared to 2006. Between 84 and 90% of implants were with CRT-D devices. The variability in standardized implant rates among the provinces was substantial and the ratio between the provinces with the highest and the lowest implant rates was always greater than 2. Considering prevalent cases of heart failure in the period 2006-2010, the proportion of patients implanted with CRT per year ranged between 0.23 and 0.30%.

CONCLUSIONS

The application in 'real world' clinical practice of CRT in heart failure is quite heterogeneous, with substantial variability even among areas belonging to the same region, with the need to make the access to this treatment more equitable. Despite the increased use of CRT, its overall rate of adoption is low, if a population of prevalent heart failure patients is selected on the basis of administrative data on hospitalizations.