Cardiac resynchronization in chronic heart failure: some considerations about the cost-effectiveness

We read with great interest the recent editorial of Dr Santini and Dr Ricci about biventricular pacing in patients with heart failure.1 One of their comments is about the cost–benefit ratio of the cardiac resynchronization therapy (CRT), and suggest that balancing extra costs by saving hospital days makes the cost–benefit ratio of pacing therapy look favourable. In the recent MIRACLE study,2 it was found that CRT results in clinical improvement in patients with moderate-to-severe heart failure with intraventricular conduction delay. With a 6-month follow-up, significantly fewer patients with CRT than control patients required hospitalization, with 363 vs. 83 hospital days. The medical treatment was considered optimal and was similar in both groups. In our public institution, the cost of the device used is 6035 Euros (Medtronic Insync pace-maker, three leads including the specific left lead and the lead delivery system) and the cost of 1 day of hospitalization in a cardiology or medicine department is 486 Euros. The service life of the device may not exceed 4 years (considering the wish of a permanent stimulation on both ventricles) and, on this basis, we estimated the cost of the device at 171,997 Euros for the 6 months of the study in the 228 patients with CRT. By contrast, the benefit in terms of cost for hospitalization would only be 136,080 Euros. Moreover, the number of days of hospitalization for the implantation of the device (at least 2 days, i.e. 456 days for the 228 patients with a benefit expected from CRT) and of clinic visits for the follow-up of the device has not been taken into account for this evaluation. The number of deaths was 12 in the CRT group and 16 in the control group, leading to a cost of life per year saved of 42,999 Euros that may be considered borderline for the cost-effectiveness.3 Although these comments are speculations on data that are not our property and have limitations since the incremental benefits of CRT are unknown after 6 months, this raises some questions about the cost-effectiveness of CRT in view of the number of patients candidates to CRT.

References


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