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Comparison of the effects of combined rate and rhythm control treatment with Nebivolol and electric cardioversion (ECV) to rate-control treatment with Nebivolol alone on clinical and echocardiographic parameters in patients with Left ventricular dysfunction induced tachycardia (NEBICAR)

Patients and methods: 60 patients with Hypertension with newly occurring supraventricular tachycardia were randomized to Nebivolol 5 mg parallel groups or cardioversion (prior to the start of treatment with Nebivolol, patients will undergo electric cardioversion (ECV) with biphasic waveform shocks) during 28 days of treatment

Objective:

To compare the influence of the treatment with Nebivolol following ECV with biphasic waveform shocks to the treatment with Nebivolol alone on the echocardiographic parameters of left ventricular end diastolic diameter (LVEDD) with a heart rate >140 bpm within the last three months and Ejection fraction <50%

Results:

The responder rate, that is, patients with a heart rhythm ≤ 90 bpm at the end of the study, was similar with both treatments, as was clinical improvement defined by decrease of symptoms of heart failure, and reduction of NYHA classes. Ejection fraction improved in both groups. However, it is to be noted that, in terms of safety, cardiac adverse events were more frequent in the group receiving ECV only.

Conclusions

These findings do not permit to favour one treatment strategy over the other one. However, it is to be noted that in terms of safety, cardiac adverse events were more frequent in the group receiving ECV only.

It should be considered that the limitations of the study include the small sample size (decreasing the power of the study to identify a true difference) the short followup duration, and the potential heterogeneity of the patient population. Only a larger scale study should permit to determine the best treatment strategy in presence of tachyarrhythmia-induced cardiomyopathy, with regard to reversibility of heart failure symptoms, and cardiac reverse remodelling.