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Use of cilostazol in young patients with vagotonia related to bradycardia: Description of 4 cases in adolescence

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Introduction: Bradycardias in adolescents can be generated by diseases of the conduction tissue or by external influence (vagal tone, for example). Symptomatic Vagotonia may prompt healthcare professionals to early implant artificial cardiac stimulation devices. However, the transient aspects of vagotonia in the hebiatric population lead to the risk of over-indication. Phosphodiesterase inhibitors, such as cilostazol, can help with transient dysfunction by increasing the conduction of sodium channels in the depolarization phase (funny channels) of automatic cells. **Objectives:** To describe 4 cases of adolescents with bradycardia of extrinsic origin undergoing evaluation for permanent pacemaker implantation undergoing oral therapy with cilostazol. **Methods:** Four adolescents (12, 15, 16, and 18 years old) were evaluated (3 patients were male and 1 female) with bradycardia of extrinsic origin - vagotonia (responsive to ergometry or atropine) and underwent drug therapy with cilostazol after ruling out the presence of ventricular arrhythmias caused by triggered activity. One patient had congenital heart disease (univentricular heart disease late PO of total cavopulmonary - single left ventricle without atrial isomerism). The others had structurally normal hearts. Ventricular function was preserved in all patients. All had sinus pauses longer than 2.5 s and paroxysmal atrioventricular block. The initial dose was 50mg/day, with dose progression up to 100 mg every 12 hours as the therapeutic goal. **Results:** Only the patient with congenital heart disease was maintained on the initial dose due to a good Holter response and important improvement in oxygen saturation. There was a reduction of more than 90% in pauses with an average increase in HR without exacerbating periods of tachycardia on Holter monitoring (performed biweekly). After using cilostazol, heart rate variability in the time and frequency domains showed an improvement in the LF/HF ratio in all cases and a reduction in pNN50 in 75% of patients. There was no change in liver or kidney function while using the medication. All remained asymptomatic during follow-up from 3 months to 4 years. **Conclusion:** 1) The use of cilostazol reduces the parasympathetic/sympathetic imbalance with cilostazol in symptomatic pubescent adolescents may prevent pacemaker implantation in patients with transient vagotonia.