A prospective analysis of the efficacy and safety of ethacizine during premature atrial contractions and premature ventricular contractions

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Background: Ethacizine, a class Ic antiarrhythmic agent, is prescribed for managing severe or refractory supraventricular and ventricular arrhythmias, including premature atrial (PACs) and ventricular contractions (PVCs). Despite its use, there is a lack of substantial research exploring the therapeutic effects of ethacizine at present.

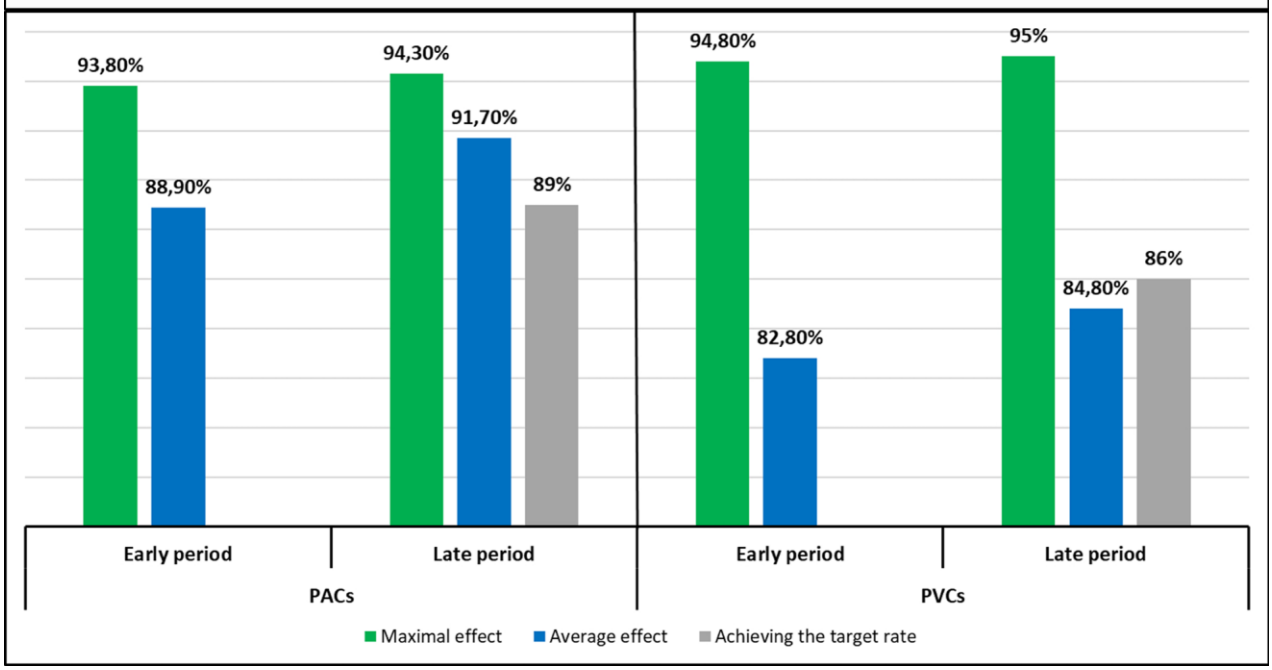
Purpose: The study evaluated the efficacy and safety of ethacizine in addressing PACs and PVCs, in cases where other antiarrhythmic medications proved ineffective.

Methods: We performed a prospective analysis of ethacizine treatment (50 mg. b.i.d.) for early (30-45 days) and late periods (150-210 days), in male (n=58; 59.2%) and female (n=40; 40.8%) patients aged ≥ 18 years (18-72 y.o; mean age 45 years), with 46 cases of PACs and 52 cases of PVCs, who had previously been treated with another antiarrhythmic medication (bisoprolol, metoprolol, sotalol, verapamil, amiodarone, or propafenone) and had not achieved the target rate of extrasystoles (≤1000/24h).

Results: The findings reveal a substantial decrease in the mean parameters of PACs during both, the early period (initial 6877 ± 2432, following 761 ± 341); (88,9%); t([45]) = [13,336], p = [< .001) and the late period (initial 6877 ± 2432, following 574 ± 294); (91,7%); t([45]) = [15,124], p = [< .001). The quantitative reduction in PACs reached a maximum of 93.8% in the early period (19406 PACs □ 1211 PACs) and 94.3% in the late period (19406 PACs □ 1105 PACs). The mean parameters of PVCs in the early period experienced a significant reduction (initial 3205 ± 1145, following 550 ± 194); (82,8%); t([51]) = [8,284], p = [< .001). Similarly, the mean PVC values in the late period exhibited a noteworthy decrease (initial 3205 ± 1145, following 490 ± 181); (84,8%); t([51]) = [8,553], p = [< .001). For PVCs, the maximum effect observed in the early period was 94.8% (18929 PVCs □ 989 PVCs), and in the late period, it reached 95% (18929 PVCs □ 950 PVCs). The target rate in the late period (≤1000/24h.) for PACs reached 89%, and for PVCs - 86% (Figure 1). Adverse effects were noted in a mere four subjects (4%). These events manifested as 2nd-degree AV block (Mobitz 1), sustained ventricular tachycardia, asymptomatic nonsustained polytopic ventricular tachycardia, and asymptomatic transient ST-segment elevation observed through 24-hour ECG holter monitoring.

Conclusion: A prospective study on ethacizine treatment (50 mg. b.i.d.) confirmed its effectiveness and safety in reducing PACs and PVCs. It demonstrated a sustained reduction in extrasystole occurrences for an extended period, achieving the target rate with minimal side effects. Ethacizine merits consideration for addressing extrasystolic arrhythmia, particularly in cases where other antiarrhythmic medications prove ineffective.

Figure 1. Results of the study



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