

## PREVENTIVE EFFICACY OF PROPAFENONE IN PAROXYSMAL ATRIOVENTRICULAR TACHYCARDIAS

Koshumbaeva K.M., Makhanov D.I., Kim Z.G., Atarbayeva V.Sh., Kurmanbekova G.Zh.

Scientific-Research Institute of Cardiology and Internal Diseases, Almaty, Kazakhstan

**Paroksizmal atriyoventriküler (a-v) taşikardi çeşitli formlarına sahip olan hastalarda propafenon uzun süreli tedavisinin etkinliği ve ilaca tolerans yazarlar tarafından çalışılmıştır.**

**Wolf-Parkinson-White (WPW) sendromunda paroksizmal atriyoventriküler resiprokal taşikardi ve a-v taşikardinin önlenmesinde propafenonun etkinliği saptanmıştır.**

**İhtiyaç duyulan dozlarda ilacın yan etkisi hastaların %12,7 inde görülmüştür.**

**Anahtar Kelimeler: Paroksizmal atriyoventriküler taşikardi, Propafenone**

*(Türk Girişimsel Kard. Der. 2007;11:91-93)*

### INTRODUCTION

The most widespread forms of atrioventricular tachycardias include the paroxysmal atrioventricular node reciprocal tachycardia (PAVNRT) caused by the longitudinal dissociation of atrioventricular node and paroxysmal orthodromal reciprocal tachycardia (PORT) appeared in WPW-syndrome<sup>1,2</sup>.

Alternative preparates of the choice for stoppage and prevention of supraventricular tachycardia's paroxysms in the absence of organic heart damage are 1C class antiarrhythmic preparates by Williams's classification<sup>3,4</sup>. Not long ago, the preparate of that class propafenone had been appeared on pharmaceutical market of Kazakhstan.

The aim of present investigation was study efficacy and tolerance to propafenone in the long-term treatment of patients with paroxysmal atrioventricular tachycardias.

### MATERIALS AND METHODS

Under of observation there are 55 patients (15

Corresponding Author: Dr. Koshumbaeva Kulzida Mukievna  
Kazakhstan, 050051, Almaty, Samal-1  
No:18 App. No:18.  
Fax: 8 32 72 79 98 38  
e-mail:kulzida@mail.ru, ncvb@nursat.kz

males, 40 females), aged from 15 to 67 years old (in average 42,7±2,0 years). Organic heart diseases had been diagnosed in 34 persons: 20 have arterial hypertension (including the 4 cases in combination with ischemic heart disease), 12 had suffered by myocarditis in past, 12 have ischemic heart disease only. In one patient the cause of arrhythmia are not succeeded to find out, so its arrhythmia had been assessed as idiopathic.

The fits of tachycardia had appeared with periodicity from 1-2 per day to once per 2 months, in average 11,0±1,8 per month.

The method of transesophageal heart electrostimulation (TEHES) had been used for the study of electrophysiological myocardial characteristics, provocation and diagnose of the tachycardia's species and for estimation of antiarrhythmic effect of the preparate also. The initial investigation was carried out in the control period, when all cardiotropic drugs were repealed before. After induction of the stable paroxysm it were registered an electrocardiogram (ECG), esophageal electrogram and it was determined the specific form of tachycardia on the basis of known diagnostic criteria<sup>4</sup>.

**Table 1:** The dynamics of electrophysiological indices in the short-term therapy with propafenone

Indices	Initial data	Propafenone	p
HR (str/min)	75,4±2,0	74,1±2,0	n.s
PQ (ms)	144,1±4,4	162,2±4,5	<0,001
QRS (ms)	95,5±2,8	99,7±2,4	n.s
QT corrected (ms)	435,5±4,6	438,9±4,5	n.s
TSNFR	1079,5±28,3	1138,0±32,4	<0,05
c TSNFR	265,3±22,9	323,5±30,0	<0,02
p. Venkebakh (imp/min)	178,4±4,9	167,1±4,2	<0,05
ERP av (ms)	295,7±9,7	298,3±9,7	n.s

Notes: n.s - not significant

By the TEHES results, the PORT in WPW-syndrome was revealed in 33 persons. At that manifested WPW was in 9, latent form of it - in 2, concealed form in 22 patients. PAVNRT was diagnosed at the other 22 out of 55 patients.

Short-term therapy (STT) by propafenone was carried out during of 7-10 days. Daily dose of preparate modified from 450 to 900 mg (in average 520,9±14,5). In last day of STT TEHES was implemented again. The stoppage of spontaneous fit and impossibility to provoke the stable paroxysm under repeated TEHES were considered as a criterion of effectiveness of the preventive therapy.

The persons who have achieved antiarrhythmic effect of propafenone in the STT were included in the group of long out-patient observation (3 months and more).

Statistical processing of the received data was realized by using of the Student's pair criterion.

**The results of investigation and discussion:** Antiarrhythmic effect of propafenone during of the short-term therapy is not succeeded to estimate in 4 patients (with WPW-syndrome) because the frequent ventricular extrasystoles were appeared on 2-4 days of the preparate taking - in one patient, in 2 patients nausea and vomiting, at one patient - intense asthenia were manifested. In the all cases treatment had been discontinued, i.e. preventive efficacy of propafenone has been studied in 51 patients (22 with PAVNRT and 29 with PORT).

Under of STT the spontaneous fits of av-tachycardia had been completely stopped in 45 patients, its had not been provoked in the repeated (control) TEHES, that is preventive effect of propafenone had been registered in 88,2% of cases, in other 6 (11,8%) persons it was not effective (in 3 - with PAVNRT, in 3-with PORT). The good effect was received in 28 patients in taking of 450 mg, in 14 - 600 mg, in one - 750 mg, in 2 - 900 mg of preparate per day.

Differentiated analysis of STT-results, in depend

of the form of av-tachycardia, had shown that effectiveness of propafenone in paroxysmal orthodromal reciprocal tachycardia in patients with WPW syndrome and PAVNRT is approximately the same - 89,6% and 86,4% accordingly.

The blockade of right crus of His' bundle in two investigated patients, the atrioventricular blockade of degree (PQ 220 ms) in one patient had been revealed until therapy prescription (in control period). On the whole in group, moderate, but reliable delay of a-v conduction (increase of PQ-interval, reduction of Venkebakh's point), the time of sinus node function recovery (TSNFR) and corrected TSNFR (cTSNFR) were observed after STT, but the dynamics of averages of mentioned indices had occurred within the normal values (Table 1).

In 2 persons with initial complete blockade of right crus of His' bundle the redoubling of intra-ventricular conduction had not been revealed in the study of individual data; but in one patient with a-v blockade of 1st degree the deterioration of atrio-ventricular conduction was registered (interval PQ had been enlarged to 240 ms) under influence of propafenone.

Control for long taking of propafenone under of out-patient observation was carried out in 26 patients (13 - with PORT, 13 - with PAVNRT). At that efficacy of therapy had not been estimated in 3 patients because of side effects of preparate manifested on 4th week and required its revocation (delay of intra-ventricular conduction above the permissible limit had been registered in one, in other-expressed bradycardia, "chilliness" of arms and legs, dizziness also, in 3rd - intense headache).

Daily dose of propafenone during of the long-term taking varied from 300 to 750 mg, averaged 485,0±19,9 mg.

Achieved in STT the preventive effect of preparate is completely retained in 17 out of 23 persons with paroxysmal av-tachycardia, i.e. in 73,9% of

the cases, including 6 out of 11 (54,5%) with PAVNRT and 11 out of 12 (91,7%) with PORT. Other 6 patients (5 with PAVNRT, 1 with PORT) had not the stable removal of the paroxysms, although its number decreased in 50% and more from an initial. The considerable changes of the average electrophysiologic indices comparably with data in STT were not registered. The patient who had intensification of a-v blockade of 1st degree (PQ from 220ms to 240 ms) continued the drug taking because further worsening of atrioventricular conduction was not observed.

Along with abovedescribed 7 cases of the side reaction of propafenone (4 under of STT and 3 under of long-term therapy), its undesirable effects were registered else in 5 patients; in 4 - under condition of STT (in 3 - the bitterness in the mouth, in 1 - the headaches) and in one - the nasal bleeding on the 3rd month of treatment. In that cases the side effects of propafenone had been removed after decrease of the daily dose from 600 to 450 mg (at that anti-arrhythmic effect was kept). Altogether, the side

effects of preparate had been registered in 12 (21,8%) out of 55 patients, at that the stoppage of therapy was required in 7 (12,7%) persons.

Thus, propafenone is high effective drug for prevention of av-tachycardia's paroxysms (PORT in WPW-syndrome and PAVNRT). The side effects, required of the preparate revocation, were registered in 12,7% of cases.

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