

## Case Report

## Low-dose Flecainide vs Propafenone for Supraventricular Ectopy Suppression in the Elderly

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### ABSTRACT

Frequent premature atrial contractions (PACs) and focal atrial tachycardias (FAT) are seen in one third of patients after ablation for atrial fibrillation. Sometimes, first-line therapy (beta-blockers, verapamil, and diltiazem) is insufficient for proper control of supraventricular ectopy or there are some contraindications to their use. In these cases, antiarrhythmic agents of the IC class (flecainide and propafenone) are administered. Despite the differences in their pharmacodynamic and pharmacokinetic properties, there is no direct comparison between these two agents regarding their efficacy in suppressing supraventricular ectopy. We report a case of switching from low-dose propafenone to low-dose flecainide in elderly with frequent PACs and episodes of FAT. An 81-year-old man had a high number of symptomatic PACs and episodes of FAT in the settings of propafenone at the dose of 150 mg twice a day after cryoablation for atrial fibrillation. Propafenone was switched to flecainide at a dose of 50 mg twice daily and ambulatory ECG monitoring was repeated. The total number of PACs, FATs and premature ventricular contractions (PVCs) decreased significantly. PAC burden decreased from 18.4% to 7.9%. However, the number of blocked PACs increased from 189 to 2518 per day. Palpitations became less frequent. Thus, low-dose flecainide is associated with a decrease in the number of PACs, episodes of FAT and PVCs compared with low-dose propafenone, but the number of blocked PACs is higher in the setting of flecainide use.

**Key words:** flecainide, propafenone, premature atrial contractions, supraventricular tachycardia, elderly, low-dose.

Premature atrial contractions (PACs) and supraventricular tachycardia (SVT) are common in the elderly. In the elderly, 46.9% of patients have 100 or more PACs per 24 hours and 84.4% of patients have SVT episodes [1]. Beta-blockers, verapamil, diltiazem, propafenone, and flecainide are considered first-line drugs for the treatment of focal atrial tachycardia (FAT) [2]. Antiarrhythmic drugs of the IC class, especially flecainide and propafenone, are often administered to patients with FAT and symptomatic premature atrial contractions. Despite different pharmacokinetic and pharmacodynamic properties, the efficacy of flecainide and propafenone has not been compared. We report a case of switching from low-dose propafenone to low-dose flecainide in an elderly patient with frequent PACs and episodes of FAT.

### CASE REPORT

An 81-year-old man presented to a cardiologist with complaints of episodic palpitations for the past two months.

He had undergone cryoablation for paroxysmal atrial fibrillation almost three years before (Figure 1). However, propafenone at a dose of 150 mg twice daily was administered because of symptomatic PACs and FAT. The patient was also treated with rivaroxaban (15 mg once daily). Seven months after cryoablation, an intracranial hemorrhage occurred. Rivaroxaban was replaced with apixaban at a dose of 2.5 mg twice daily. Ambulatory ECG monitoring was performed. Frequent symptomatic PACs and FATs were observed, as well as first-degree atrioventricular block with a maximum PR interval of 270 ms (Figures 2–4).

To avoid propafenone dose escalation, the patient was switched to flecainide at a dose of 50 mg twice daily and ambulatory ECG monitoring was repeated (Table 1). The total number of PACs, FATs and premature ventricular contractions (PVCs) decreased significantly. However, the number of blocked PACs increased. There was no significant effect on QRS complex width and PR interval. Palpitations became less frequent.

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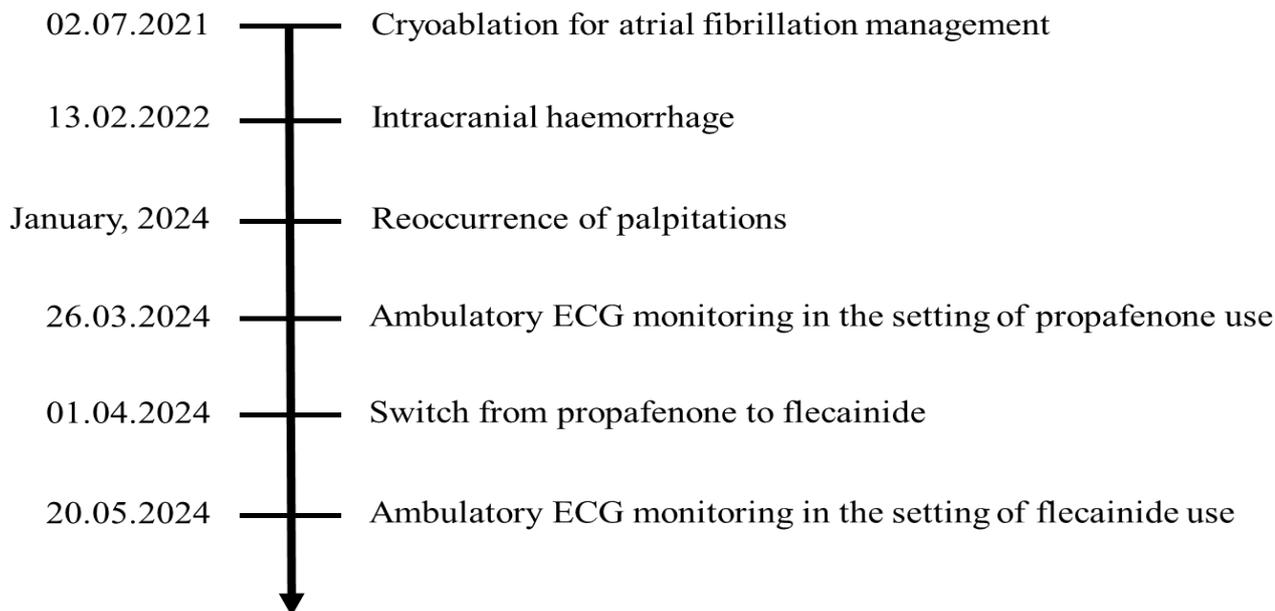


Fig. 1. Timeline

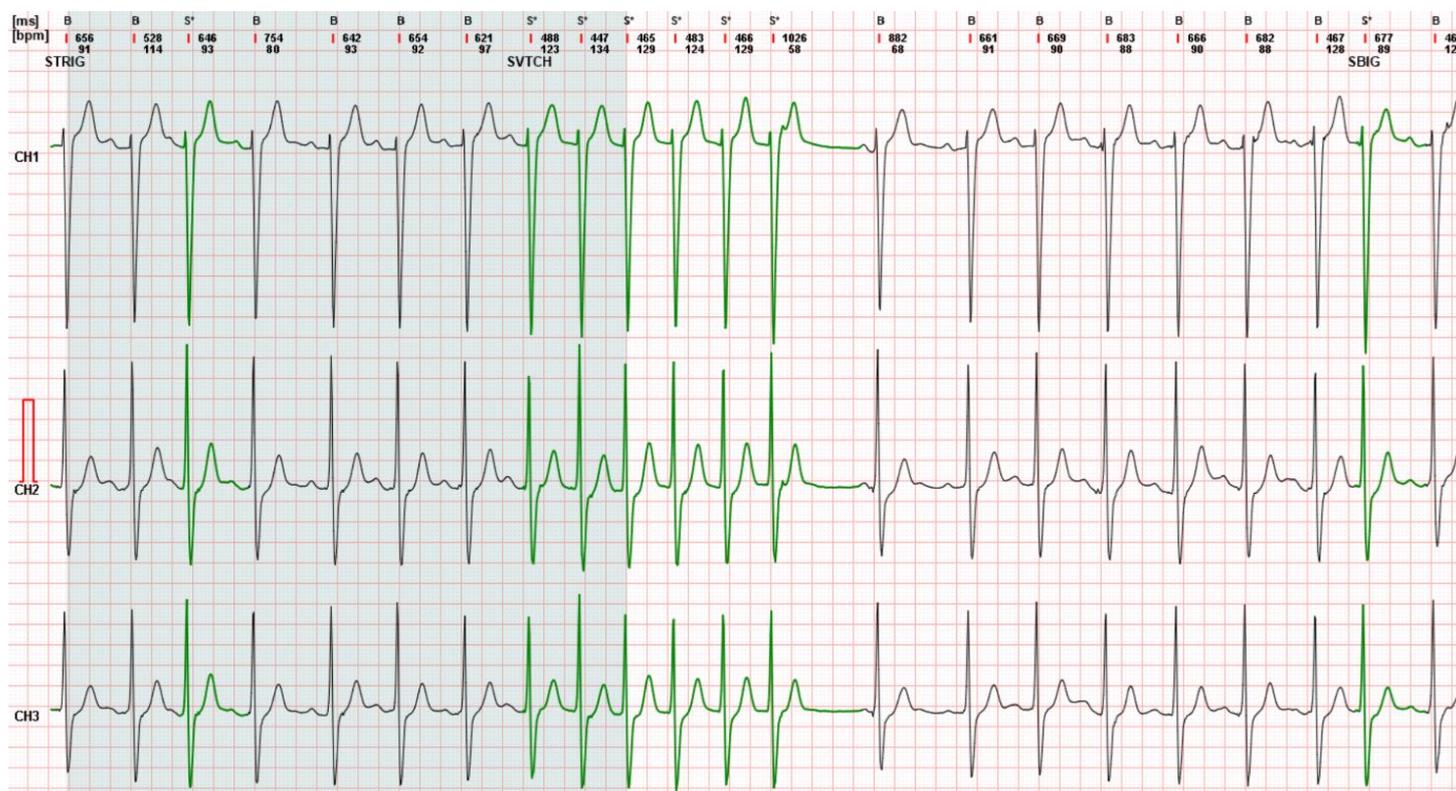


Fig. 2. Focal atrial tachycardia episode and premature atrial contractions. First-degree atrioventricular block

Note: Supraventricular complexes are green

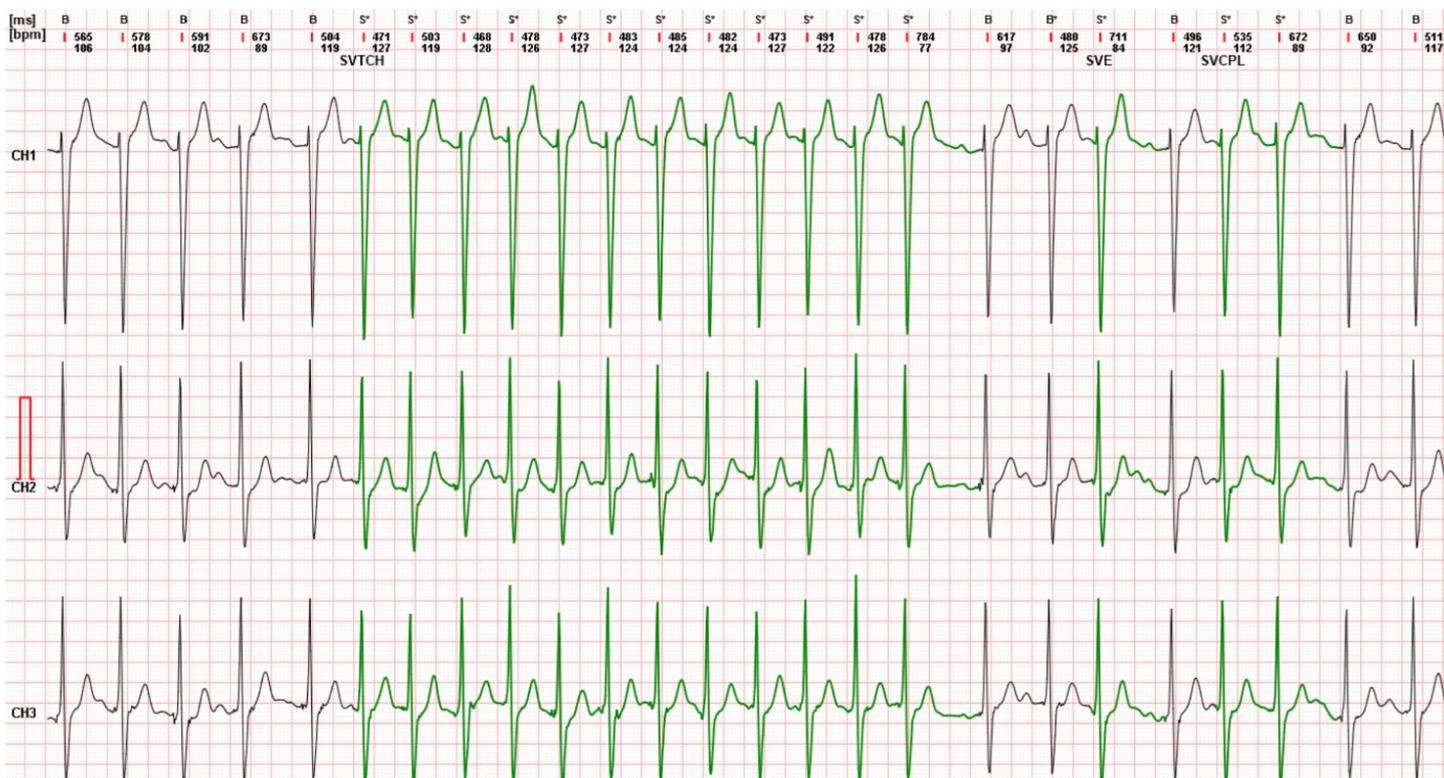


Fig. 3. Focal atrial tachycardia episode, single premature atrial contraction and supraventricular couplet. First-degree atrioventricular block

Note: Supraventricular complexes are green

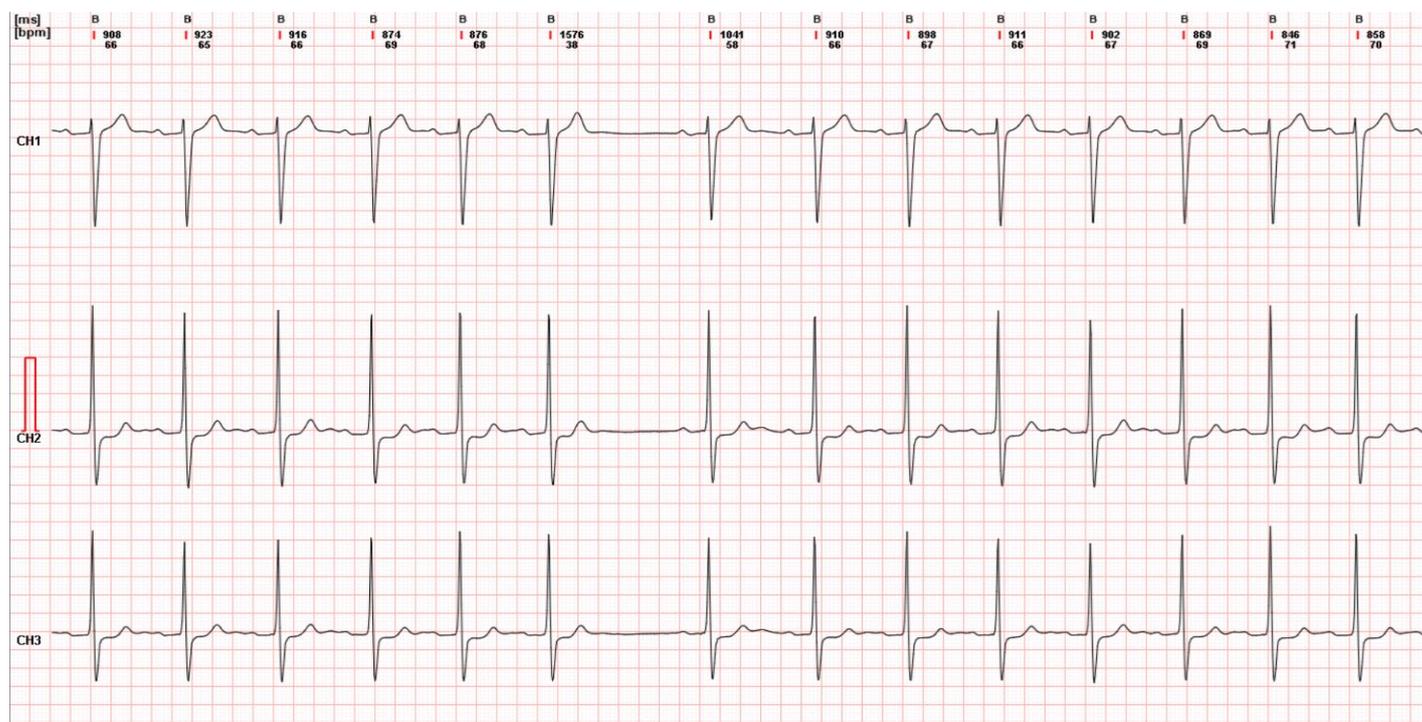


Fig. 4. Blocked premature atrial contraction. First-degree atrioventricular block

Note: Minor changes in T-wave morphology due to superimposition of P wave before the longest RR interval in this strip

**Table 1. Basic parameters of ambulatory ECG monitoring performed at low-dose propafenone and flecainide**

Parameter	Propafenone 150 mg bid	Flecainide 50 mg bid
Heart rate		
Minimal, bpm	51	47
Average, bpm	75	70
Maximal, bpm	119	107
PACs		
Single*	12736	5216
Couplet	1534	256
Triplet	543	34
SVT**	130	2
Blocked	189	2518
PAC burden, %	18.4	7.9
Longest SVT, number of complexes	19	5
PVCs		
Single	1436	291
Couplet	3	0
VT	1	0
RR intervals		
Maximal RR interval, ms	1822	2049
Minimal RR interval, ms	335	402

\*Blocked PACs were not included

\*\* SVT was considered more than three consecutive supraventricular ectopics

Abbreviations: Bid, bis in die (twice a day); bpm, beats per minute; PAC premature atrial contraction; PVC, premature ventricular contraction; SVT, supraventricular tachycardia; VT, ventricular tachycardia

## DISCUSSION

Despite the wide use of flecainide and propafenone in clinical practice, there is a lack of direct comparison of their efficacy in the prevention of symptomatic FAT, PACs. Aliot E. and Denjoy I. (1996) concluded that flecainide and propafenone are equally effective in paroxysmal atrial fibrillation and atrial flutter [3].

Our study showed that low-dose flecainide was associated with a decrease in the number of PACs, PVCs, and episodes of FAT compared with low-dose propafenone. However, the number of blocked PACs was significantly higher with flecainide. This may be explained by the fact that flecainide is more effective in suppressing atrial ectopy, but was associated with worse atrioventricular conduction of PACs compared to propafenone. Flecainide was considered for this patient because of its longer half-life compared to propafenone and the preserved glomerular filtration rate (72 mL/min/1.73 m<sup>2</sup>) in this patient. In addition, this patient had no structural cardiac abnormalities except for mild left atrial dilation. Therefore, switching to low-dose flecainide was preferred to increasing the dose of propafenone.

The rhythm control strategy with cryoablation was chosen in this patient because of frequent symptomatic paroxysms of

atrial fibrillation and patient preference. Atrial fibrillation is a known cause of ischemic stroke, moreover strokes due to atrial fibrillation are more severe with a greater degree of disability [4]. Frequent PACs occur in 32.5% of patients undergoing catheter ablation for atrial fibrillation and predict late recurrence of atrial fibrillation [5]. Also, the longest PACs run of 5 is the optimal cut-off for predicting recurrence of AF [5]. It was decided to continue rivaroxaban at three months after the ablation because the patient still had frequent atrial ectopics and multiple focal atrial tachycardias. However, an intracranial hemorrhage occurred and the patient was switched to apixaban.

## CONCLUSION

Flecainide may be more effective than propafenone in reducing the total amount of PACs and the number of FAT episodes. However, flecainide may be associated with a higher number of blocked PACs compared to propafenone.

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