

# Flecainide use in Pediatric Patients following Congenital Heart Disease Surgery

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## Introduction

Flecainide is a class 1C antiarrhythmic drug.

Previous studies have suggested that use of flecainide in patients with structural heart disease leads to increased morbidity and mortality. This has led to hesitance in prescribing flecainide to patients with congenital heart disease (CHD).

In light of this, we reviewed the Herma Heart Institute's experience prescribing flecainide to patients for post-surgical arrhythmia management.

## Aim

The aim of this study was to review our experience using flecainide to control post-surgical arrhythmias in children with CHD, evaluating treatment outcomes and safety.

## Methods

We conducted a retrospective chart review on 32 pediatric patients with congenital heart disease who underwent CHD surgery at the Herma Heart Institute between 2012 and 2019 and were subsequently prescribed flecainide for post-surgical arrhythmia management.

### Data Collected

- Demographic Data
- CHD Diagnosis
- Operative Notes
- Complications & Comorbidities
- EKG Data
- Anti-arrhythmia Treatment Course
- Outcomes

## Results

28 of 32 patients were successfully treated with flecainide for arrhythmia management following surgery for congenital heart disease.

Of those patients, 14 had had a Right Bundle Branch Block (RBBB), increasing their QRS duration.

Only one patient had significant QRS changes in response to flecainide treatment, requiring a decrease in flecainide dose. Two other patients stopped flecainide therapy due to comorbidities which may have affected the safety of continued flecainide treatment.

The average effective dosage for these patients was approximately 76 mg/m<sup>2</sup> (range, 14-114 mg/m<sup>2</sup>). The average change in QRS duration from baseline to therapeutic dosing was 24 ms (range, 0-76 ms).

## Conclusions

Flecainide is a safe and effective treatment for post-surgical arrhythmias in CHD patients.

Flecainide is a safe option, even in patients with RBBB

~80 mg/m<sup>2</sup> is an effective dose for controlling post-surgical arrhythmias in most patients

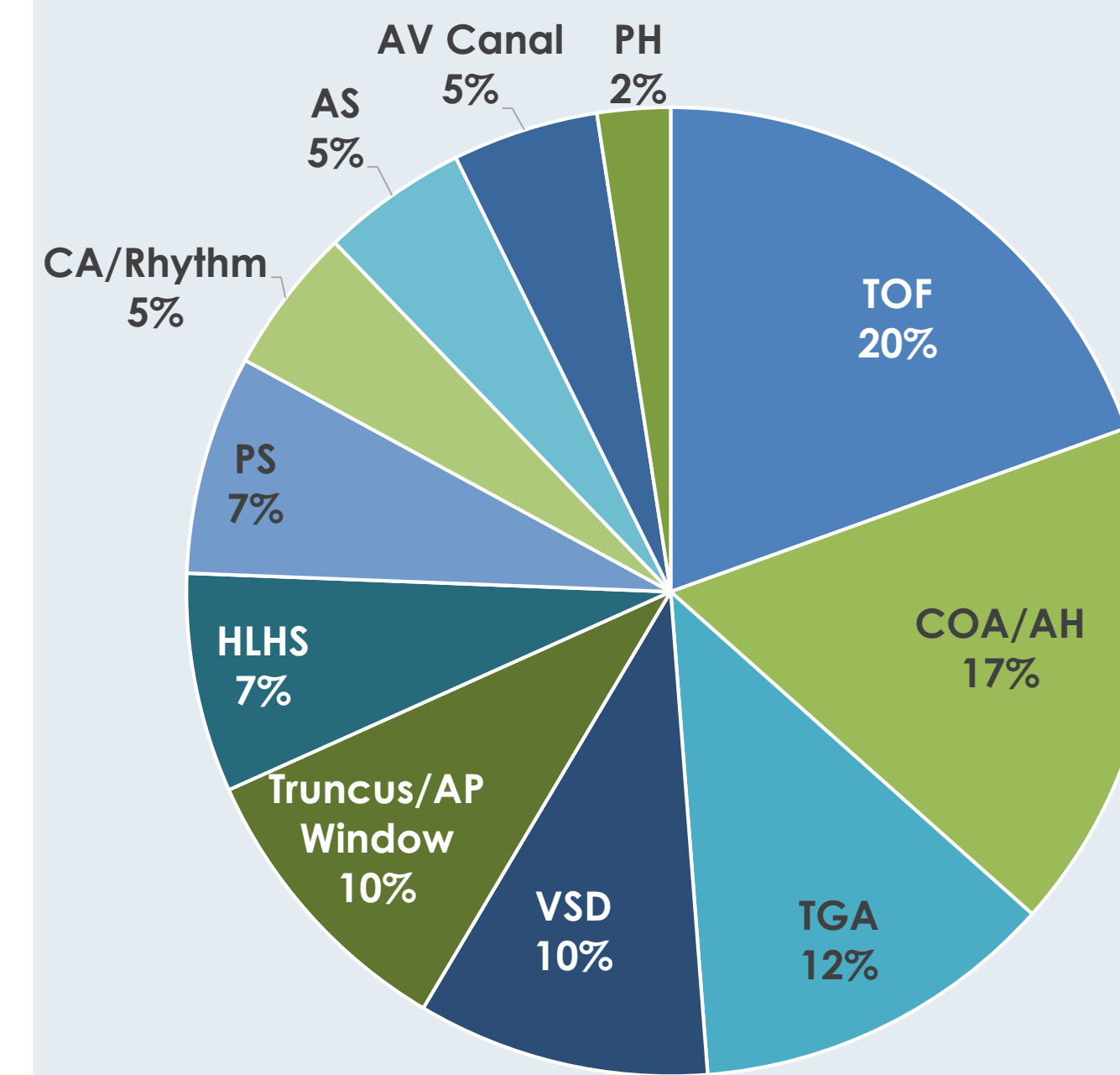


Figure 1: Congenital heart defects present in cohort (n=32)

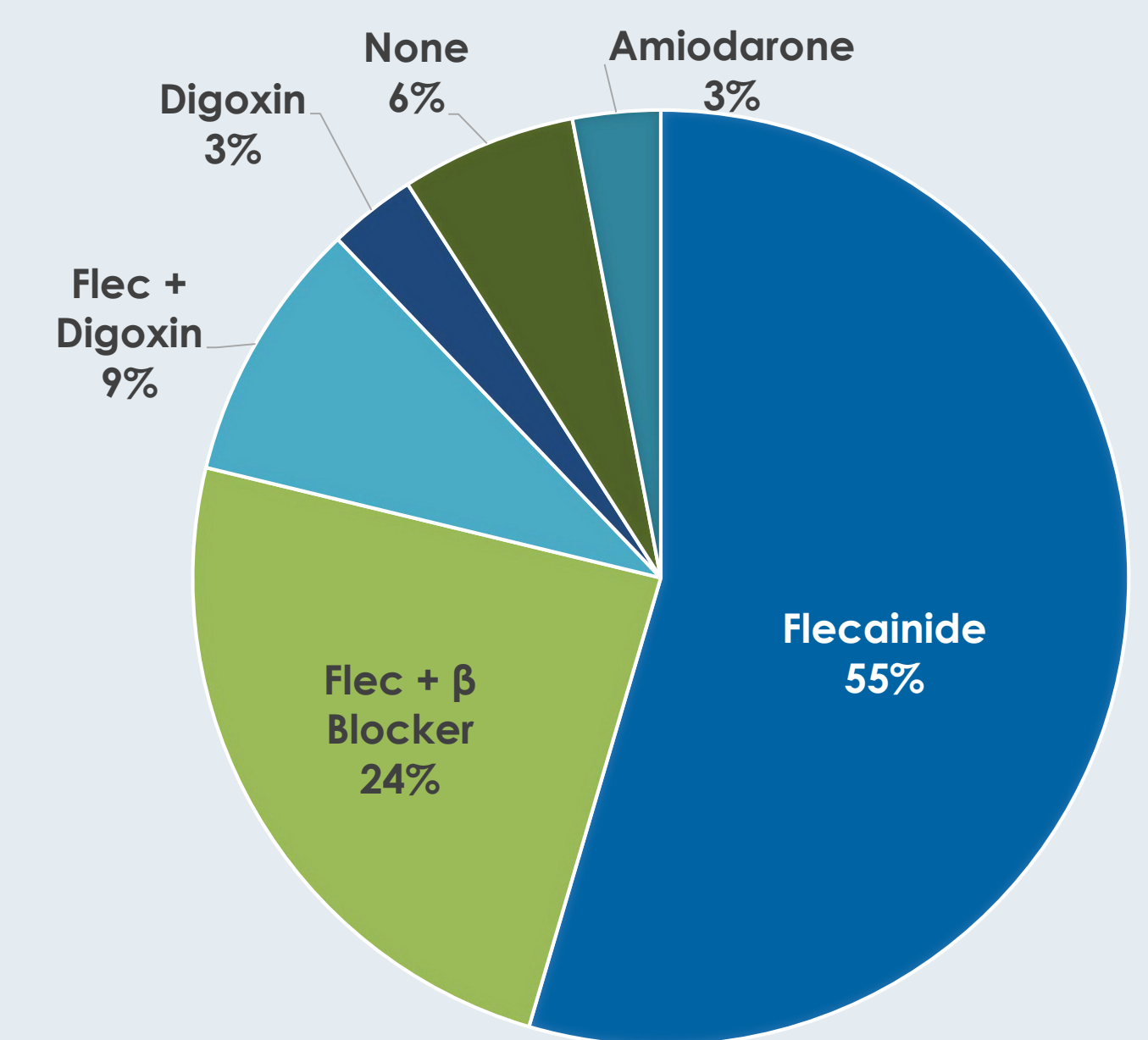


Figure 2: Discharge medications (n=32)

Arrhythmia	Percentage
Ectopic Atrial Tachycardia	36%
Supraventricular Tachycardia	33%
Atrial Fibrillation	27%
Junctional Ectopic Tachycardia	18%
Multifocal Atrial Tachycardia	12%
Catecholaminergic Polymorphic Ventricular Tachycardia	3%
Ventricular Tachycardia	3%

Table 1: Post-surgical arrhythmias in cohort (n=32)

Parameter	Median
Age at Surgery	0.62 mos
Weight at surgery	3.70 kg
Age at Flec. Tx	1.74 mos
Weight at Flec. Tx	3.71 kg
Length of Stay	32 days

Table 2: Cohort demographic data

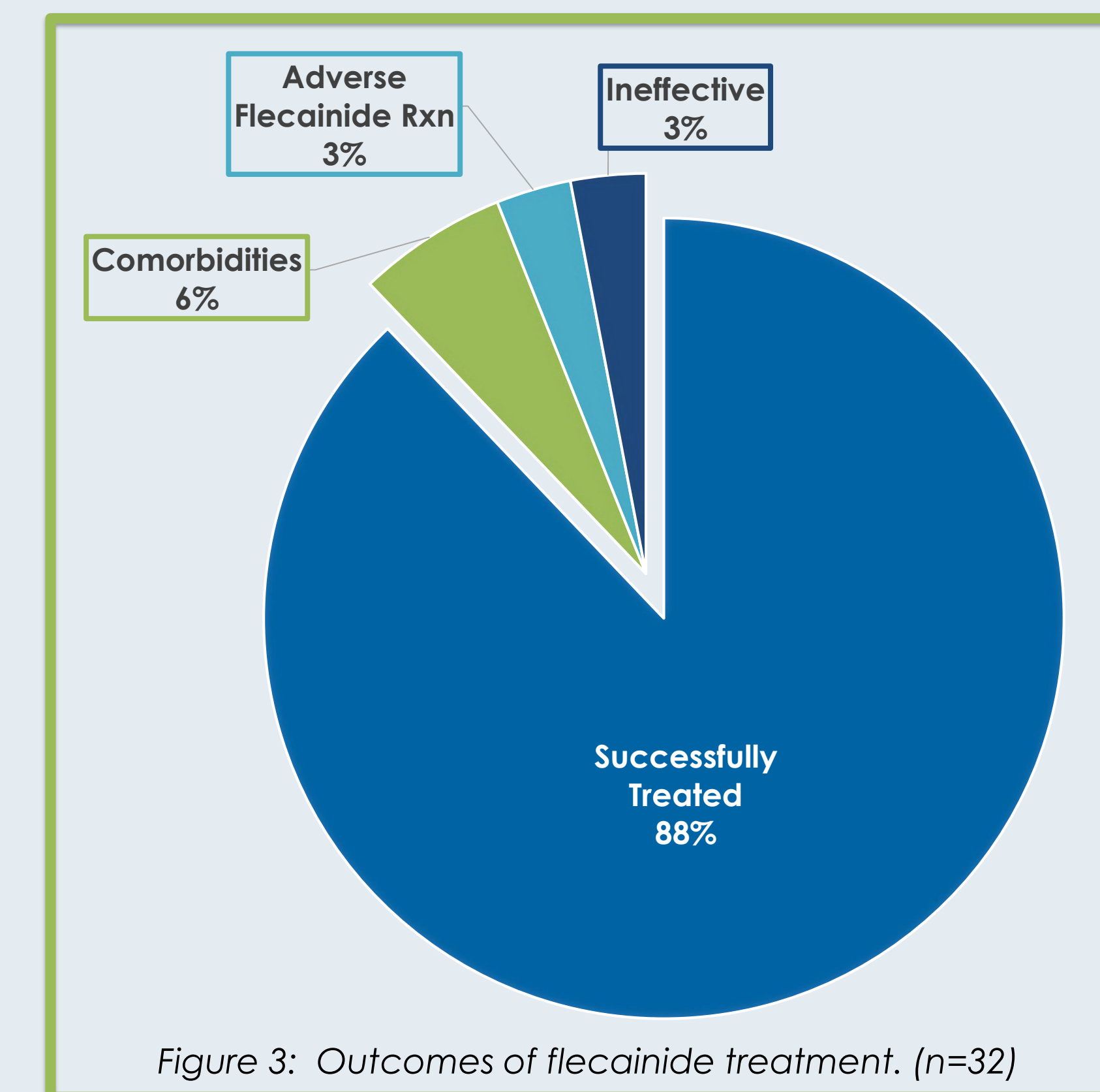


Figure 3: Outcomes of flecainide treatment. (n=32)

## Acknowledgements

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