

Incidence of post operative atrial fibrillation in patients post non-cardiac and non-thoracic surgery

Dr Roopa Das, Dr Geoff Wong, Dr Ronan O'Donnabhain

Department of Perioperative Medicine

Background

Post operative atrial fibrillation (POAF) is a well-known occurrence following any surgery. It is more common following cardiac and thoracic surgery (up to 35.2%) and is less common in other surgeries (1-15%) (1-4). POAF is an important diagnosis as it is associated with negative clinical outcomes including higher morbidity (longer length of stay in hospital and increased rates of heart failure, myocardial infarction, stroke, bacterial sepsis and return to theatre) and mortality either in admission or after discharge (5-6). There is limited local data in Australia regarding the incidence and the impact POAF has on patients' clinical course.

Aims

This study looks at rates of POAF after non-cardiac and non-thoracic surgeries in a hospital in Melbourne, Australia

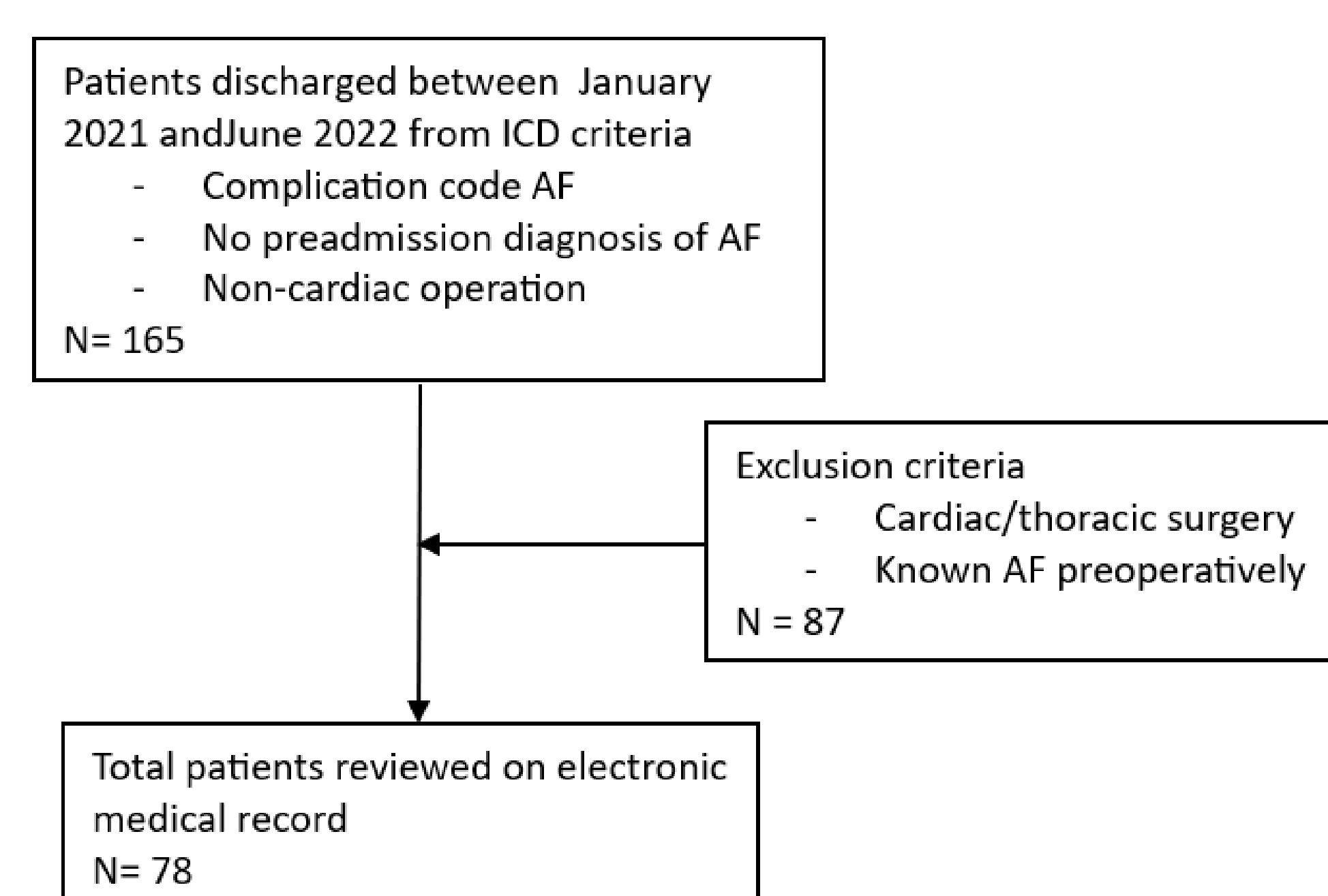
Methods

A retrospective single centre analysis was conducted in Melbourne Victoria between January 1st 2021 and June 30th 2022. Patients reviewed were those discharged with a diagnosis of new POAF after non-cardiac and non-thoracic surgery.

EMR was further used to record demographics, type of surgery and primary and secondary outcomes. Follow up finished on the 1st January 2023 with an average follow up period of 480 days

Secondary outcomes reviewed included commencement of anticoagulation, hospitalisation readmission within 12 months for any reason, stroke, heart failure and mortality.

Figure 1: Methodology



Results

- 78 patients had an episode of POAF. There was a total of 33,138 non-cardiac/non-thoracic surgeries in this time frame. The overall incidence of POAF was 0.24%, equating to 1.57% per 1000 surgeries per year.
- Median age was 77 years
- The mean CHA₂DS₂-VA score was 2.5.
- 37 patients in total commenced anticoagulation (56.06%).
- Death occurred in the index admission for 12 patients (15.38%) and then during the follow up period in 19 patients total (24.35%).
- Hospital readmission within 12 months of any cause occurred in 18.18%, heart failure occurred in 19.70%. Thromboembolic events (stroke) occurred in 1 person

Table 1: Patient characteristics.

Demographics		N (total = 78)	%
Gender	Male	45	57.69
	Female	33	42.31
Age	18-64	19	24.36
	65-74	25	32.05
	75+	34	43.59
PMHx	HTN	55	70.51
	Diabetes	20	25.64
	CCF	11	14.10
	Stroke	8	10.26
	BMI >30	31	39.74
	Alcohol misuse	9	11.54
CHA2DS2VA	≥2	59	75.64
TTE findings	LA area >ULN	35	44.87
	HFrEF	9	11.54
	moderate-severe valve disease	9	11.54

Table 2: Surgical and POAF event characteristics.

Surgical details		N = 78	%
Type of surgery	Minor	22	28.21
	Major	56	71.79
Timing of event post operatively	<3 days	50	64.10
	≥3 days	28	35.70
type of AF	Paroxysmal	56	71.79
	Persistent	22	28.21
	CCU/MET call	58	74.36

Table 3: Secondary outcomes.

Secondary outcomes		N = 78 (total); 66 (survived index admission)	%
Death	in admission	12	15.38
	By January 2023	19	24.36
Holter monitor	had holter	23	34.85
	Holter showed AF	5	21.74
Commenced anticoagulation		37	56.06
Complications	Hospital readmission	12	18.18
	Heart failure	13	19.70
	Thromboembolic event	1	1.52

Conclusions

The overall rates of POAF were lower in our local community compared to studies elsewhere globally, with similar risk factors noted. Most patients had paroxysmal AF and reverted to sinus rhythm. Commencing and continuing anticoagulation were individualised and based on a sexless CHA₂DS₂-VA score, holter results and a patients' bleeding risk.

Limitations include the single centre it took place at and small sample size. There was inconsistent follow up in a variety of locations which impacted the accuracy of data collection for secondary outcomes. Further there may have been missed POAF events that were not picked up due to ICD coding.

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