The Safety and Efficacy of Sotalol in the Management of Acute Atrial Fibrillation : A Retrospective Case Control Study

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A single centre retrospective observational study on 300 patients admitted with acute AF over a 12 months period. Study drugs used were sotalol, amiodarone, flecainide, propafenone or disopyramide for rhythm control. Digoxin, beta blockers, verapamil, diltiazem were prescribed for rate control. Rates of cardioversion to sinus rhythm, readmission rates due to AF, all cause readmissions, mortality rates due to sudden cardiac death and all cause mortality was recorded over a 2 year follow up period. For paired data, the Wilcoxon matched-pairs signed-ranks or paired t-test were used. For unpaired data, Fisher's exact test was used.

120 patients were discharged on sotalol. The mean total dose used was 169.2 mg daily. Cardioversion to sinus rhythm on discharge occurred in 68% in the rhythm control group versus 42% for rate control group ($p<0.001$). Sotalol had a significantly higher cardioversion rate regardless of the dose when compared to amiodarone ($p=0.036$) however, there were similar readmission rates for AF. Four patients died acutely in hospital, none were on sotalol. Compared to all drugs sotalol had the lowest mortality rates ($p=0.001$). Mortality rates were lower in patients who received the higher dose of sotalol; 7.4% for patients who received a total of 320 mg daily versus 11.8% in those who received 160 mg daily.

Sotalol is as safe and effective as other anti-arrhythmic drugs, in fact it was significantly more effective than amiodarone in this cohort. All AAD's demonstrated a significant improvement in cardioversion rates and a significantly lower mortality rate than rate controlling drugs.

Atrial fbrillation; Anti-arrythmics; Rate limiting drugs; Cardioversion commentary

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Atrial fbrillation (AF) is the most common cardiac arrhythmia and afects 1.5-2% of the population [1]. Over 6 million Europeans have AF and the prevalence is expected to double in the next 50 years [2].

AF is associated with increased risk of stroke, heart failure, impaired quality of life, reduced exercise tolerance, lef

Society of Cardiology (ESC) 2006 guidelines for AF [4]. However, it is

important to note that a lack o
guidelines.

In the 2012 ESC AF guidelines,
minimal or no structural heart
Rhythm Society 2014 AF guideline
use of sotalol for the maintenar
use of sotalol for acute AF has no

Although sotalol does not ca
generally understood that guid
substitute for clinical judgeme
contraindications to the class 1
accept the side efect profle
retrospective trial is observational
reasons why sotalol was chose
medications are ofen used of
provide additional information
provide reasonable treatment for A
We sought to establish the ef
compared to other anti-arrhythm
general hospital.

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T e remaining patients died predominantly of non cardiac causes. Mortality rates were lower in patients who received the higher dose of sotalol; 7.4% for patients who received 160 mg BD versus 11.8% in those who received 80 mg BD. However, this was not statistically signifcant. Compared to the rate control group, mortality rates were signifcantly lower in patients receiving an anti-arrhythmic drug; 29.8% versus 13.3% ($p<0.001$) respectively. More specifcally mortality rates were lower with sotalol when compared to all study drugs (Table 3).

	RHYTHM CONTROL ARM			RATE CONTROL ARM		
	Sotalol (120)	Amiodarone (66)	Other AAD (24)	Rate control (75)	No treatment (36)	
Age	68+/-8	69+/-9	61+/-8	69+/-8	68+/-6	
Deaths	13 (11%) p = 0.0004	11 (17%) p = 0.07	4 (17%) p= NS	23 (30%)	10 (28%)	
SCD	2 (1.7%)	2 (3.0%)	1 (4%)	3 (4.0%)	0	
All Cause Readmission	67 (56%)	39 (59%)	12 (50%)	50 (67%)	22 (61%)	
Readmission (AF)	31 (26%)	17 (26%)	5 (21%)	11 (15%)	7 (19%)	
Readmission (CCF)	3 (2.5%)	3 (4.5%)	0 (0.0%)	2 (3%)	2 (6%)	
Cardioversion to Sinus rhythm	86 (72%) p < 0.0001	37 (56%) p < 0.001	20 (83%) p < 0.0001	32 (44%)	15 (42%)	

TABLE 2: Comparison of rhythm and rate control strategies and outcomes. Data refers to n (%) or mean +/- SD as appropriate. All statistical comparisons in table are by Fishers exact test and are compared with the no AAD group (all rate control combined). SCD: Sudden Cardiac Death; AF: Atrial Fibrillation; CCF: Congestive Cardiac Failure.

Table 3:

3. Wijfels MC, Kirchhof CJ, Dorland R, Allessie MA (1995) Atrial fbrillation begets atrial fbrillation. A study in awake chronically instrumented goats. Circulation 92: 1954-1968.
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