Antiarrhythmic Therapy Evaluation In A Hospital Setting

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Background and importance

Within the hospital setting, arrhythmias prolong hospitalizations, worsen patient's clinical status and can increase the mortality rate. It is often difficult to choose between the available antiarrhythmic therapies; currently in our facilities, there are no antiarrhythmic nor subsequent anticoagulation drug selection protocols.

Aim and objectives

The present study aims to characterize admitted patients that suffered in-hospital arrythmias and analyze their antiarrhythmic therapy, anticoagulation needs and drug interactions in order to evaluate the appropriate use of these drugs according to the international guidelines and help to establish evidence-based pharmacotherapeutic guidelines.

Material and methods

A retrospective observational study of hospitalized patients in a two-year period was made. Information was obtained from the hospital's inpatient management systems and IBM SPSS® software was used for data processing.

Results

Table I: Characterization of patients included in the study

Characteristics	N (%)
Total patients meeting inclusion criteria	270
Avarage age	79.5
Men	143 (53)
Women	127 (47)
Avarage hospitalization stay (days)	8.8
Discharge condition	
Arrhythmia stabilized with outpatient antiarrhythmic treatment	138 (51.0)
Arrhythmia stabilized without outpatient antiarrhythmic treatment	106 (39.3)
Patients with atrial fibrillation and optimal anticoagulation	33 (18.5%)
Deaths	18 (6.7)
No data on discharge condition	8 (3.0)

Table II: Analysis of prescribed antiarrhythmic drugs in contrast with international guidelines*

Arrhythmia	Prescribed drug N (%)		Dosing N (%)		
	Optimal	Non-Optimal	Optimal	Non-Optimal	Does not apply
Auricular fibrillation	170 (95.5)	8 (5.5)	150 (84.3)	18 (10.1)	10
Ventricular fibrillation	2 (100)	0	2 (100)	0	0
Atrial Flutter	0	3 (100)	0	0	3
Supraventricular tachycardia	0	15 (100)	0	0	15 (100)
Ventricular tachycardia	34 (100)	0	34 (100)	0	0
AV Block	1 (100)	0	1 (100)	0	0
Bradycardia	35 (94.4)	2 (5.4)	32 (86.5)	3 (8.1)	2 (5.4)

*2019 AHA/ACC/HRS Focused Update of the 2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation.
2017 AHA/ACC/HRS Guideline for Management of Patients with Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death
2019 ESC Guidelines for the Management of Patients with Supraventricular Tachycardia
2016 ESC Guidelines for the Management of Atrial Fibrillation
2015 ACC/AHA/HRS Guideline for the Management of Adult Patients With Supraventricular Tachycardia
2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation
2014 EHRA/HRS/APHRS Expert Consensus on Ventricular Arrhythmias.

Conclusion and relevance

Antiarrhythmic prescription was adequate in most cases. Amiodarone was the most prescribed antiarrhythmic and presented multiple drug interactions. In the studied population, the anticoagulant selection was not optimal based in the evaluation of CHA2DS2VASc2, it is necessary to improve the anticoagulation therapy in patients with arrythmias.

There's place for improvement, clinical pharmacist could collaborate in the optimization, improving results avoiding complication and drug-related adverse effects.

Creating a drug dispensing protocol in addition to a comprehensive clinical evaluation regarding antiarrhythmic therapy, taking all the risk factors, drug interactions and each patient's particular needs into consideration is a most.

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