CPD Cycle: Hospital Pharmacy Scheduled Cycle

Cycle Name: Understanding Arrhythmias and management options.

Scheduled

This learning activity is within my current scope of practice ✓

This learning activity is relevant to the safe and effective practice of pharmacy ✓

All criteria are essential and must be completed successfully for the cycle to meet the required standard.

Reflection

1. I identified the following specific learning need(s) …

I need to learn more about cardiovascular conditions and disorders.

Specifically, I need to learn:

What is an Arrhythmia and how does it occur?
How to decide if oral anticoagulation is appropriate in atrial flutter and atrial fibrillation (AF)?
What are the symptoms of AF and how are they managed pharmacologically?
How is AF classed?

2. I wanted to learn about this because (give context for learning activity / activities) … (500 word maximum)

I wanted to learn about this because AF is a common diagnosis on my ward and part of my role on the ward is to advise the medical staff on the safe prescribing of anticoagulation for AF. I also have to counsel the patient on the anticoagulation or other medication commenced for the management of the AF and can also be asked by the patient what is the condition and how did they get it. I therefore wish to develop my knowledge in the area of Arrhythmias and management of AF to be able to educate patients on their need for treatment and to be able to guide the medical team on the most appropriate medication.

Planning

3. I plan/planned to complete the following learning activity/activities to meet the identified learning need(s). (Please describe the learning activity/activities and the planned completion dates(s)).

I planned to complete the following learning activities to meet the identified learning needs:

Read and make notes on the Queens University, Belfast PMY7040 Advanced Therapeutics booklet Chapter 6 - Arrhythmias – Focusing on Atrial Fibrillation. I planned to complete this activity by 09/05/2024.

Action

4. In meeting the identified learning need(s), I completed the following learning activities:

Activity: I read and made notes on the QUB PMY7040 Advanced Therapeutics booklet – Chapter 6: Arrhythmias – Focusing on Atrial Fibrillation.

Hours: 4.75

Start date: 03/05/2024

End date: 07/05/2024

Evidence Type: Notes

Evidence: Self-study

Evidence upload (optional): PMY7040 Cardiovascular disease (Arrhythmias) pdf
Arrhythmias Notes pdf. Copy of the handwritten notes made whilst reading the material.

Summary of what has been learned in relation to the identified learning need(s) (500 word maximum):

In summary I have learnt the following in relation to my identified learning needs:

An Arrhythmia is a change from the normal heart rate or rhythm, resulting from a change in impulse generation and/or an alteration in impulse conduction. Arrhythmias can be split into Sinus Arrhythmias or Ventricular Arrhythmias. Sinus Arrhythmias include Sinus Bradycardia (HR<60bpm), Sinus Tachycardia (HR>100bpm), Atrial Flutter and Atrial Fibrillation. Ventricular Arrhythmias include Ventricular Tachycardia and Ventricular Fibrillation. Arrhythmias can occur due to underlying cardiac diseases or can have no determinable cause. Some causes include post-MI necrosis, drugs which effect the heart e.g. caffeine and anti-arrhythmics, hypertension, electrolyte imbalances, infections and hyperthyroidism.

Anticoagulation is recommended in AF due to the risk of stroke associated with arrhythmias. The stroke risk for atrial flutter and AF is similar therefore anticoagulation is important in both. The patients should be assessed for their risk of stroke before commencing anticoagulation using CHADS-VASC. This is a scoring system which indicates the 1-year-risk of a thromboembolic event in a non-anticoagulated patient with non-valvular AF. The higher the score, the higher the risk of stroke. If the patient scores ≥ 2, an ≥oral anticoagulant should be prescribed. HAS_BLED or ORBIT scoring systems can be used to measure the patient's risk of bleeding. If the patient has a score of ≥ 3, he/she will need regular clinical reviews if an oral anti-coagulant is commenced due to their high risk of bleeding.[1] Anticoagulation should not be held due to the risk of falls alone. Before commencing oral anticoagulation, the benefits and risks must be explained thoroughly to the patient. A DOAC (for example edoxaban) is preferred to a vitamin K antagonist unless a VKA is contra-indicated, such as, when the patient has mechanical heart valves, anti-phospholipid syndrome or CrCl<15ml/min.

Some patients can be asymptomatic; others can have symptoms including palpitations, chest pain, syncope, reduced exercise tolerance and heart failure. The EHRA has classed the symptoms into 4 categories with Class 1 being no symptoms and Class IV being a patient with disabling symptoms, where they cannot perform any of their normal daily activities. The goal of initial treatment is to reduce the ventricular rate to <110bpm and improve cardiac output. Initial rate control in a stable patient can be achieved with an oral β-blocker or a non-dihydropyridine calcium channel blocker. If the patient is severely compromised, IV verapamil or metoprolol can be prescribed. In the acute setting the target HR is 80 – 110bpm. If the patient remains symptomatic despite the

[1] He/she and him/her has been used to help anonymise sex throughout this document.

above, pharmacological cardioversion may be initiated with either Flecainide, Propafenone or Amiodarone. Alternatively, they could get Direct Current Cardioversion (DCC), but will require anticoagulation at least 3 weeks before and up to 4 weeks after, unless present with AF dose <48 hours from symptom onset; long-term management is primarily with rate control medications and the need for rhythm control is based on the impact of AF on quality of life and likelihood of success. Long-term management can be considered with β-blockers, non-dihydropyndine CCBs, digoxin, amiodarone or dronedarone. Dronedarone is only used after other treatment options have been considered.

Classification is dependent on the duration and presentation of AF. It is classed as: New onset-first presentation of AF Paroxysmal; Self-terminating - usually within 48 hours of starting, but can occur for up to 7 days; Persistent – continues over 7 days or requires termination via cardioversion; Longstanding persistent – lasts over 1 year; Permanent – presence of AF accepted by patient and medical team.

Evaluation

5. Having met the specific learning need(s) identified, has changed as follows:

As a result of my new learning, I now have more of an understanding of the factors which need to be considered before commencing oral anticoagulation following the diagnosis of AF and what my role is in this. I am also more educated in what arrhythmia is; therefore, I feel I can discuss this with the patient more confidently.

I am also now able to confidently and competently identify the symptoms of AF when a patient is admitted to my ward. For example, a 92-year-old male/female was admitted to my ward and was treated for CAP. Whilst in hospital, he/she was diagnosed with new onset AF following an ECG. I was more confident knowing what this meant for the patient. The doctor approached me about commencing this patient on edoxaban. I knew I need to complete a CHADS-VASC and ORBIT score to assess the risk of stroke and bleeding. His/her CHADS-VASC score was 3 and the ORBIT score was 2. I encouraged the SHO to discuss the decision with the patient first before prescribing the edoxaban to ensure that the patient was aware of the risks and benefits of the treatment. I then calculated the CrCl, confirming a dose of 30mg was appropriate for the patient as his/her CrCl = 42ml/min and he/she had no other contraindications. I then reviewed the patients notes and confirmed he/she was asymptomatic of AF. I also reviewed his/her NEWS chart and his/her resting HR was always between 80-100bpm, therefore the decision was made with the SHO, he/she did not require other treatment other than a DOAC. I counselled the patient on the edoxaban as per our Trust

counselling form. The patient asked me what could have caused the AF. I informed him/her there are a number of reasons someone can get AF, such as, he/she had previously had high blood pressure, which was being managed by her GP preadmission, or there may be no underlying reason. I assured him/her the medical team would investigate if there was a cardiac reason for his/her onset AF. Following completing my learning, I felt more confident managing this patient on my ward and discussing the diagnosis of AF with the patient.

6. I confirm that the identified learning need(s) has/have been fully addressed in the CPD cycle

Your selection of 'direct' or simulated/future' evaluation (tick box below) must reflect the application of your learning described in (5) above.

This CPD cycle has been directly evaluated within my current practice and environment (minimum of 75% of cycles submitted) ✓

Community
Pharmacy Prescriber
Primary Care/Practice
Training
Hospital ✓
Industry
Academia
Other

I have recently returned to practice (within the last 12 months): NO

I have changed my scope of practice within the last 12 months): NO