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| **Module** | Management of VKAs (HCP) |
| **Topic** | The use of anticoagulants for stroke prevention |
| **Audience** | Healthcare professional |
| **Type** | Topic content |
| **Version** | 2 |

**1. Introduction**

The aim of this topic is to give you an understanding of the use of oral anticoagulation for the prevention of stroke and systemic emboli in those with atrial fibrillation (AF).

By the end of this topic you should be able to:

1. Describe how atrial fibrillation increases the risk of stroke
2. Summarise the benefits of anticoagulation in stroke prevention in those with atrial fibrillation

**2. Check your understanding**

Before you start reading this topic check how much you already know by taking a short quiz. You will have an opportunity to take the quiz again at the end of the module, where we will reveal the correct answers.

a) Atrial fibrillation increases the risk of stroke five-fold

**True** / False

b) CHADS2 is the preferred tool to assess an individual’s risk of stroke

True / **False**

c) Warfarin and aspirin are equally effective in preventing stroke in those with atrial fibrillation

True **/ False**

d) Warfarin and the NOACs are equally effective in preventing stroke in those with atrial fibrillation

**True**  / False

**3. How does atrial fibrillation increase the risk of stroke?**

Atrial fibrillation is continuous, rapid activation of the atria. Although the atria respond electrically at this rate, there is very little mechanical action. Consequently, the atria do not beat in an organised way and pump less efficiently. Some of these rapid impulses travel to the ventricles via the AV node, resulting in an irregular ventricular response.

The true **prevalence** of atrial fibrillation is difficult to determine due to under-diagnosis. It is more common as people get older and in the over-65 age group it affects around 5% of people rising to over 10% of people over the age of 75.

**AF increases the risk of stroke five-fold**. In AF the atria are fibrillating and therefore not beating in a coordinated way. Blood in the atria can pool and form clots. These clots can then break off and travel elsewhere in the body, including to the brain and cause a stroke.

Now watch this short (1 minute) video which describes how AF causes stroke

https://www.youtube.com/watch?v=2XFbhaLOF5o

**4. How is a person’s risk of stroke assessed?**

Lifelong anticoagulation should be offered to all patients considered at risk. An individual’s risk of stroke can be assessed using a risk assessment tool, which assesses their clinical predictors of stroke.

The CHA2DS2-VASc *(link to* [*http://www.cardiosource.org/Science-And-Quality/Clinical-Tools/Atrial-Fibrillation-Toolkit.aspx*](http://www.cardiosource.org/Science-And-Quality/Clinical-Tools/Atrial-Fibrillation-Toolkit.aspx)*)* is the preferred tool.

**5. Which oral anticoagulants are available for stroke prevention?**

**Warfarin** has been in use for over 50 years and there is extensive evidence base to support its use in stroke prevention. It reduces the risk of stroke in AF patients by up to 68%.

**Aspirin** has less of a protective effect than warfarin. It is no longer recommended solely for stroke prevention in those with atrial fibrillation (NICE CG 180 – *link to https://www.nice.org.uk/guidance/CG180/chapter/Introduction*)

The new oral anticoagulant agents (**dabigatran, rivaroxaban** and **apixaban**) have similar stroke prevention efficacy to warfarin. However, the evidence base and their use in clinical practice is relatively limited.

**6. Sources of further information**

If you would like to find out more about the use of oral anticoagulants in the prevention of stroke in AF, here are a couple of resources that are worth taking a look at.

[**NICE Clinical Guideline (CG 180) - Atrial fibrillation: the management of atrial fibrillation (June 2014)**](https://www.nice.org.uk/guidance/CG180/chapter/Introduction) (https://www.nice.org.uk/guidance/CG180/chapter/Introduction)

This updated guideline reflects new evidence has become available, including stroke and bleeding risk stratification and the role of the new oral anticoagulant agents.

[**The Atrial Fibrillation Association (AFA)**](http://www.atrialfibrillation.org.uk/) <http://www.atrialfibrillation.org.uk>

The AFA is a UK registered charity focusing on raising awareness of atrial fibrillation by providing information and support materials for patients and medical professionals involved in detecting, diagnosing and managing Atrial Fibrillation.

**7. Demonstrate your understanding**

Now please try to answer the following questions.

a) Atrial fibrillation increases the risk of stroke five-fold

**True** / False

b) CHADS2 is the preferred tool to assess an individual’s risk of stroke

True / **False**

c) Warfarin and aspirin are equally effective in preventing stroke in those with atrial fibrillation

True **/ False**

d) Warfarin and the NOACs are equally effective in preventing stroke in those with atrial fibrillation

**True**  / False