Evaluating Warfarin anticoagulation in Atrial Fibrillation (AF)

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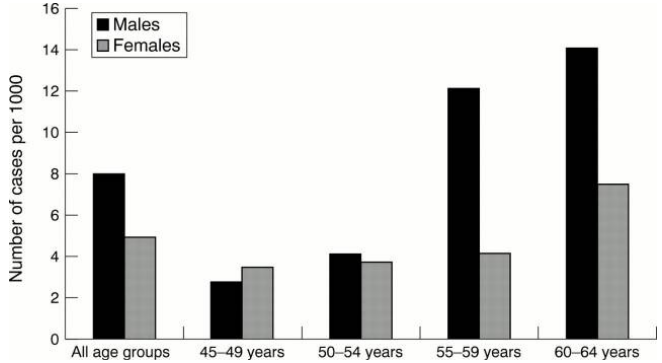
BACKGROUND

The COVID-19 pandemic has disrupted the world, causing key services to be stopped in an attempt to lower viral transmission and control infection rates. As a result, services such as warfarin clinics, which were ran to ensure the effective treatment of the pharmacokinetically unpredictable medication were stripped back and reduced as much as possible. In suitable cases, patients could be trained and supplied with their own, home international normalised ratio (INR) monitors. However, considering supplies and patients capacity on an individual basis, this would not of been feasible.

Where possible and clinically indicated patients could be given the choice to migrate on to a new form of anticoagulant, one that does not require regular monitoring and can ultimately reduce face-to-face contact protecting all parties.

INTRODUCTION

The vitamin K antagonist, warfarin, has been used as a medication in humans since the mid-1950's (1). The prevalence of its use has increased through the years, thanks to its impressive ability in preventing strokes in patients with atrial fibrillation (AF). It is estimated 1% of the UK's population receive warfarin treatment and of those aged 80 and over, 8% were receiving treatment (1). Treatment of AF reduces the likelihood of an adverse event, but can also help prevent haemodynamic instabilities which can present as shortness of breath, chest pain or loss of consciousness (2). Figure 1 depicts the rising levels of diagnosis in ageing populations. It also demonstrates an established risk factor and the increased prevalence of this condition in males.



An aging population means raising number of diagnosis and increasing numbers of patients to treat. The disadvantages associated with warfarin treatments has resulted with a change of practise, consequently the majority of newly diagnosed AF patients are being started on a novel anticoagulant (NOAC). Table 1 compares key pharmacological features of two classes indicated for AF treatment.

	Warfarin	NOACs
Onset of action	Slow	Rapid
Dosing	Variable	Fixed
Food interactions	Yes	No
Drug interactions	Many	Few
Routine laboratory monitoring	Yes	No
Duration of blood-thinning effect	Long	Short
Reversal agent available	Yes	No
Cost	$	$$$

ANALYSIS AND ASSESSMENT

Patients on warfarin, with a poor time in therapeutic range (TTR) present at an increased risk of complications due to insufficient or excessive anticoagulation (5). Supratherapeutic levels of warfarin can precipitate complications such as haemorrhagic stroke or major bleeding (5). Conversely, subtherapeutic levels can present a greater risk of thrombotic events, for example ischemic stroke.

SystmOne search identifying, patients with:

- AF diagnosis
- Prescribed warfarin

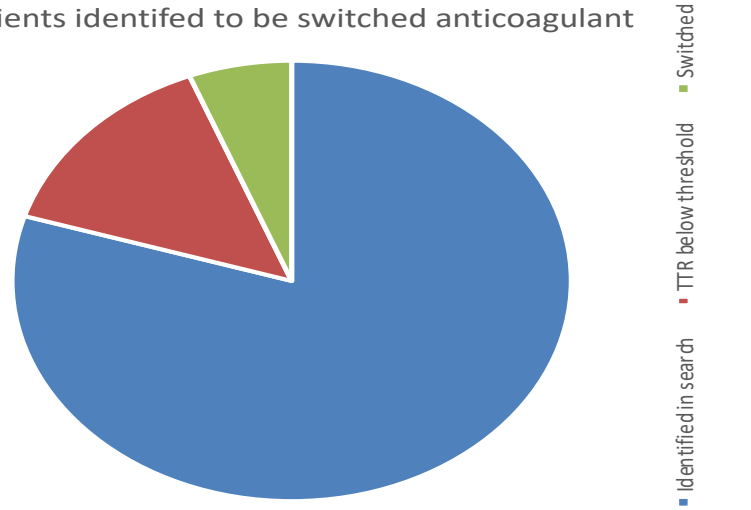
Individual patient by patient analysis, considering:

- Age
- Body Weight
- Renal function
- TTR (6 months)

Switchable patients given a one-on-one consultation with a discussion surround the pros on cons of NOACs and possible reservations around swapping medicines

SWITCHING IN PRACTICE

After discussing the patients opinions with them, they were asked if the swap of anticoagulants was suitable for them. They all opted in and were booked in for blood tests. With the results reviewed each patient was brought to the subsequent warfarin clinic and counselled on their new medication and supported through their medication change.



CONCLUSION

As a result of this work 5 patients were swapped from anticoagulant and changed from warfarin to a NOAC. This means of patients identified with a low TTR, 29.4% had their risks of complications reduced. In total, 7% of the established cohort had their anticoagulation switched. This should provide the patients with a more consistent anticoagulation and greater protection from adverse effects associated with poor warfarin control.

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