Tackling Illiteracy when Prescribing Warfarin

Sir,

Warfarin is a commonly prescribed medication. Over two million in North American are currently taking it and that number is rising, due to an aging population[1]. It has been used for over 50 years and is indicated in many areas of medicine including the primary and secondary prevention of venous thromboemoblism, the prevention of emboli in patients with atrial fibrillation or prosthetic heart valves, stroke prevention, in patients with peripheral vascular disease, recurrent infarction, the primary prevention of acute myocardial infarction, and death among patients with an acute myocardial infarction. Despite its benefits warfarin is also associated with a number of adverse drug reactions, the most common being bleeding. It has a very narrow therapeutic index and with its many drug and dietary interactions, along with genetic factors and different pathologies affecting bioavailability and pharmokinetics, patients require their international normalized ratio (INR) monitored and warfarin dose adjusted on a regular basis. Over the 50 years of using warfarin the optimal balance between adverse events and efficacy is best achieved with an INR of 2.0 â 3.0.

Figure 1: The colour coded sticker warfarin book, advised to be used in conjunction with close clinic follow up, for patients with literacy difficulties. Brown stickers signify brown (1mg) tablets. Blue stickers signify blue (3mg) tablets. Pink/red stickers signify pink/red (5mg) tablets. The combination of stickers adds up to daily required dose. For example 1 Brown stickers and 1 blue sticker for a patient supposed to take 4mg on that particular

Health literacy is the degree to which individuals can obtain, process, and understand the information and services necessary to make appropriate decisions involving their health[2]. Limited health literacy is prevalent in certain populations in the United States, especially the elderly[3], and also in Ireland, especially[4] with a large inward migration of non-native English speakers since 2000[4]. In a 1992 study it was estimated that 21% of the adult population in the United States had only an elementary reading and writing skills, increasing with age (15.6% when aged 60 -65, 58% when >85 years old)3. This is associated with receiving fewer preventive services, difficulty following[5] medication instructions, and in some studies, with poorer health outcomes[5]. The average health costs are also 6 times higher[6]. Such trends are well highlighted in the HIV population which are 4 times less likely to adhere to antiretroviral regimens with increasing illiteracy[7]. Similar trends are also seen in those prescribed warfarin, where written communication is the primary method to inform and instruct patients, as it is efficient and low cost. With reduced literacy levels, problems can and do arise. A study involving 143 participants, taking warfarin, demonstrated that patients with lower numeracy skills had higher variability of their anticoagulation control8.

From the above one may suggest that regular attendance at warfarin clinics with verbal instructions may nullify the impact of illiteracy on warfarin and INR control. This can be argued against, as even in the setting of dedicated anticoagulation clinics, warfarin control is still frequently suboptimal. Even the use of a telephone-based anticoagulation service has been proven to be suboptimal, as people with an inability to write (write down instructions) are still affected. A blister packaging method for medication administration is often favourable, but not all patients are willing to participate.

As a consequence of the above, I suggest that when faced with a patient who has literacy problems, it may be an option to use a colour coded sticker warfarin book (Figure 1) to advise patients regards their daily warfarin dose, in combination with regular follow up in dedicated anticoagulation clinics. The combination of visual aids and close clinic contact should reduce the impact of an inability to speak the countries native language and general illiteracy problems. This system would also benefit the elderly who may have failing vision, making reading difficult, but not colour distension. Colour blindness should be the only difficulty with this prescribing methodology.

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Comments: