Variation In Warfarin Prescribing In The UK: A National Survey Of Anticoagulation Clinics.

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Clinicians have been prescribing warfarin for over 50 years and it still remains the most widely prescribed oral anticoagulant in the UK and worldwide (1). It is estimated that 1% of the UK population is currently prescribed warfarin (2). The challenge in warfarin dosing lies in the vast individual variation in response; with genetic factors (CYP2C9 and VKORC1) contributing to 40% of this variability (3).

We suspected that variation in anticoagulation management across the UK probably also contributed to this variability, but currently there are no published data on this. The objective of our study was to ascertain the degree of variation in clinical practice in the initiation, prescribing and monitoring of warfarin in the UK. Our aim was to compare and highlight our findings in relation to National Guidelines.

Using an online survey tool, we captured data for prescribing and monitoring of anticoagulation with warfarin. 200 anticoagulation clinics were contacted via email and directly by telephone. 85 clinics throughout the UK completed the survey. Variables that were assessed included the use of Local over National Guidelines; recommended therapeutic INR ranges; loading regimen; monitoring of INR; management of under and over anticoagulation; understanding of drug interactions and patient education. The majority of individuals completing the online survey were Specialist Nurses (77.1%), with Biomedical Scientists (6/48; 12.5%) and Pharmacists (5/48; 10.4%) contributing to the remainder.

Over two thirds of clinics contacted were run by secondary care (68.2%) and the majority were facilitated by Specialist Nurses (57.6%). In line with National Guidance, the majority of clinics adhered to a target INR of 2.0-3.0 for patients with atrial fibrillation (AF) (94.5%) and on first presentation with venous-thromboembolism (91.9% PE, 94.7% DVT) (4). The majority of respondents give either 10mg (54.8; 40.4%) or 5mg (21.0%; 28.8%) loading dose on days 1 and 2 respectively. On day 3 survey respondents were most likely to prescribe 5mg (56.1%). However there was variation in the loading doses utilised by different centres. When therapeutic range is established, the median length of time before a further INR check was 14 days (N = 50; range 2-56 days). A sub-therapeutic INR is next checked on average 6 days later (range 2-28; median 7 days). The majority of respondents would give vitamin K if the INR was over 8.0 (even in the absence of bleeding) (87.3%). Participants were most likely to give 2mg (51.0%) via the oral route (94.5%). This correlates with National Guidance which recommends the administration of 1-5mg of oral vitamin K in the non-bleeding patient with an INR >8.0 (4). All clinics (100%) surveyed provide written information for patients including ‘bleeding risk’ and ‘medication interactions’.

This national survey provides an understanding of the current practices amongst anticoagulation clinics in the UK, and shows that practice does vary despite the fact that the majority of clinics are aware of current National Guidelines on anticoagulation.