Abstract: P448

Pitfalls of the use of novel oral anticoagulant use in real-world setting - Importance of a structured anticoagulation unit

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Introduction: Non-vitamin K antagonist oral anticoagulants (NOAC) are considered to have predictable pharmacokinetics, a lack of food interference and fewer drug interactions, allowing for standardized dosing without monitoring. However, their misuse could potentially result in patient harm, particularly in the elderly and patients with renal impairment. We aimed to analyze NOAC dosing patterns in a real-world setting and the effectiveness and safety of a structured follow-up in a recently created nurse-based NOAC Anticoagulation Unit with medical surveillance with focus on high-risk patients.

Methods: All consecutive patients followed in a NOAC Anticoagulation Unit of a single tertiary university hospital between August 2016 and August 2017 were identified. Patients were referred by their attending physician for reasons such as low glomerular filtration rate, advanced age or history of previous bleeding. Each visit comprised a clinical questionnaire and blood analysis. Subsequent visits were scheduled according to the results.

Results: One hundred and eight patients (67.3% male, mean age 74.9 years, 81.5% atrial fibrillation) were analyzed. At first visit, mean glomerular filtration rate was 52.6 ± 12.0 mL/min and 40 patients (37.0%) had a glomerular filtration rate < 60 ml/min. The most commonly prescribed NOAC were apixaban (63.0%) and rivaroxaban (24.1%). 55 (50.9%) patients were medicated by their attending physician with reduced doses. Bleeding events occurred in 15 patients (13.9%), without major events, and ischemic episodes in 5 patients (4.6%) during a mean follow-up of 8 months and a total of 620 visits. Three deaths were reported (one due to a massive stroke). According to renal function, label-discordant dosing was observed in 35% of patients. In patients with renal dysfunction, lack of renal dose-adjustment was seen in 9.3% of patients. In 25.9% of patients with preserved renal function, underdosing was documented. However, when comparing patients with renal function-adjusted dose and non-adjusted dose, there was not a significant increase in bleeding (18.2 vs. 13.4%, p=ns) or stroke events (0 vs. 6.3%, p=ns). Finally, 12 patients (11.1%) reported a temporary interruption of the NOAC mainly attributed to drug-specific side effects and minor bleeding. All the discontinued patients proceeded with other types of oral anticoagulants.

Conclusions: In routine clinical practice, prescribed NOAC doses are often inconsistent with drug labelling, mainly in patients with preserved renal function, putting them at risk of embolic events. Furthermore, despite standardized dosing, irregular medication adherence is not rare. A structured follow-up with regular monitoring of renal function and drug compliance, with associated judicious dose or medication adjustments, could reduce potential complications.