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The use of direct oral anticoagulants for stroke prevention in atrial fibrillation: A study on physicians' perspective and preferences



Alexander Wutzler*, Marwin Bannehr, Ann Cathrin Pöhlmann, Wilhelm Haverkamp

Department of Cardiology, Charité, Universitaetsmedizin Berlin, Campus Virchow-Klinikum, Berlin, Germany

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Three direct oral anticoagulants (DOACs) – Rivaroxaban, Apixaban and Dabigatran – are available for the prevention of thromboembolic events in patients with non-valvular atrial fibrillation (AF) [1]. DOACs are considered as a promising alternative to vitamin K antagonists (VKAs), since frequent laboratory tests are not required and food and drug interference is reduced [1,2]. Improvement of patient adherence is therefore expected.

However, DOACs still require assessment of renal/liver function and patient compliance [1]. Furthermore, the higher direct drug costs may limit the use of DOACs [2,3]. Recently, a controversy has emerged about whether DOACs should be used as first line treatment and how monitoring of adherence should be handled in clinical practice [4–7]. These factors may hinder a broad application of DOACs. Furthermore, results from trials only partly reflect the feasibility of a treatment in the “real world”. The goal of our study was to assess physicians' acceptance and appreciation of the DOACs in a real-life community setting.

A 10 item anonymous questionnaire on the use of VKAs and DOACs by cardiologists or general practitioners in an office-based outpatient setting was developed. The questionnaire was sent out to physicians in Berlin in October 2013, based on a local database of physicians.

From October to December 2013, 227 physicians responded. The majority (41%) are treating 21–50 patients with an indication for oral

anticoagulation per month. The majority (57.3%) are using DOACs in less than 10% of the patients, 29.1% of the physicians are using DOACs in 11–20% of their patients. Only 10.1% are using DOACs in the treatment of 21–50% and 2.2% are treating >50% of the patient with DOACs. Dabigatran is used by 67.8%, Rivaroxaban by 90.7% and Apixaban is used by 26.4% (Fig. 1).

DOACs and VKAs were considered equally safe by 45.4%. In the treatment of patients with oral anticoagulation the prevention of thromboembolic events was the priority for 15.9%, while the prevention of bleeding complications was a priority for 4.4%. The majority (79.7%) rated prevention of bleeding and thromboembolic events equal.

Bleeding complications under the use of DOACs were observed by 39.6% in daily practice. Of those, 24.2% observed gastrointestinal (GI) bleeding, 7.5% observed intracranial hemorrhage and 19.4% observed other bleeding complications (Fig. 2).

The majority of physicians (82.8%) considered DOACs and VKAs to be equally effective. General handling of DOACs compared to that of VKAs was considered to be easier by 86.8%. Furthermore, 19.8% reported that adherence is better for DOACs, 58.1% reported that adherence is equal and 10.6% reported that adherence is better for VKAs (Fig. 3).

We report the results of a survey on DOAC and VKA treatment two years after introduction of the first DOAC. The majority of the respondents are treating more than 20 patients with an indication for oral anticoagulation per month. Therefore, we consider our study collective to be a representative sample of doctors dealing with anticoagulant therapy.

Our results show that the vast majority use DOACs in daily practice. Yet, the proportion of patients treated with DOACs is still relatively limited.

Major bleeding complications have been observed by 39.6% of the respondents and 7.5% of the physicians observed at least one case of intracranial bleeding under DOACs. Nonetheless, DOACs are considered to be equally safe or safer than VKAs by the majority of the physicians. Furthermore, in most respondents' opinion DOACs and VKAs are equally effective and patient adherence is equal. General handling was considered easier with DOACs by 86.6%.

To date, only very few publications on the physician's view and preferences in prescribing anticoagulant treatment are available. However, physician's opinions are highly relevant for the application

* Corresponding author at: Department of Cardiology, Charité, Universitaetsmedizin Berlin, Campus Virchow-Klinikum, Augustenburger Platz 1, 13353 Berlin, Germany. Tel.: +49 30 450 665412; fax: +49 30 450 553 994.

E-mail address: alexander.wutzler@charite.de (A. Wutzler).

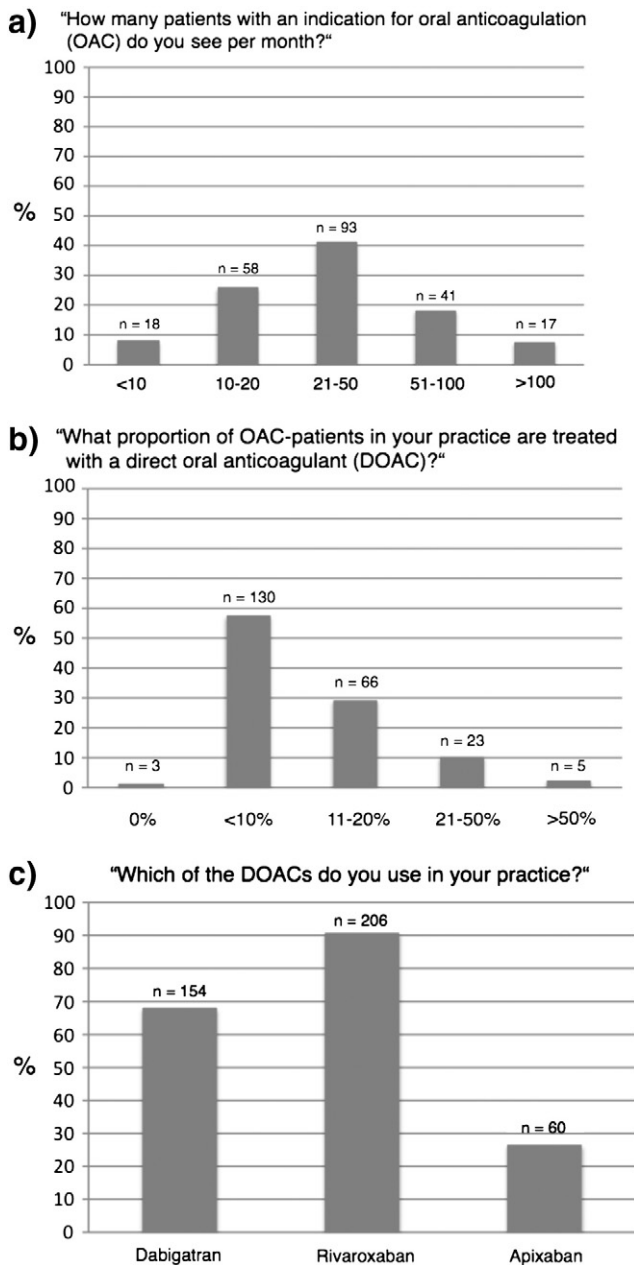


Fig. 1. Physicians and the use of DOACs. (a) "How many patients with an indication for oral anticoagulation (OAC) do you see per month?", (b) "What proportion of OAC-patients in your practice are treated with a direct oral anticoagulant (DOAC)?", (c) "Which of the DOACs do you use in your practice?".

of the results of clinical research and the implementation of a new treatment in clinical practice [8].

There is no recommendation for a specific DOAC given in the actual guidelines [9]. In our study, the use of DOACs was common, but limited to a smaller proportion of patients. The reason is most likely the fact that the majority of patients are still treated with VKAs and the switching of anticoagulants is not recommended in stable patients [1].

In our study, the safety profile of DOACs is considered as good as the safety profile of VKAs. This is consistent with the results of large clinical trials [10–12]. However, almost 40% of the respondents did observe a bleeding complication under the use of DOACs, mostly GI bleeding, but also 7.5% intracranial bleeding. Most physicians stated that the prevention of bleeding is as important as the prevention of thromboembolic in anticoagulant treatment. Although bleeding events seem to occur regularly, the majority of the respondents consider DOACs to be safe.

The most homogenous responses were obtained on efficacy and handling of DOACs: only 3.1% considered VKAs to be more effective and easier in handling compared to DOACs. Despite the fact that evaluation of patient adherence is challenging [1,4], only 10.6% stated that patient adherence was better under VKAs.

Our results show, that DOACs are accepted and the use is not limited to highly specialized centers. Adverse events are not common, but the respondents in general follow the statement that "DOACs offer better efficacy, safety and convenience" [9]. Therefore, practitioners appreciate DOACs as an alternative to VKAs.

There was a preference for Rivaroxaban in our study collective. This may be explained by the possibility to use Rivaroxaban in patients with impaired renal function and that general handling is easier with a drug that is taken once daily.

It is difficult to estimate the development of DOAC treatment during the next decade from our study. It is in all probability that the number of patients treated with DOACs will rise during the next years. Determinants of this process will be complication rates, cost trend and development of alternative treatment options for the prevention of thromboembolism, such as left atrial appendage closure devices.

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