

# How are patients with atrial fibrillation approached and informed about their risk profile and available therapies in Europe? Results of the European Heart Rhythm Association Survey

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This European Heart Rhythm (EHRA) Scientific Initiatives Committee EP Wire Survey aimed at exploring the common practices in approaching patients with atrial fibrillation (AF) and informing them about their risk profiles and available therapies in Europe. In the majority of 53 responding centres, patients were seen by cardiologists (86.8%) or arrhythmologists (64.2%). First- and follow-up visits most commonly lasted 21–30 and 11–20 min (41.5 and 69.8% of centres, respectively). In most centres (80.2%) stroke and bleeding risk had the highest priority for discussion with AF patients; 50.9% of centres had a structured patient education programme for stroke prevention. Individual patient stroke risk was assessed at every visit in 69.2% of the centres; 46.1% of centres had a hospital-based anticoagulation clinic. Information about non-vitamin K oral anticoagulants (NOACs) was communicated to all AF patients eligible for oral anticoagulation (38.5% of centres) or to warfarin-naïve/unstable patients (42.3%). Only two centres (3.8%) had a structured NOAC adherence follow-up programme; in eight centres (15.4%) patients were requested to sign the statement they have been informed about the risks of non-adherence to NOAC therapy, and three centres (5.8%) had a patient education programme. Patient preferences were of the highest relevance regarding oral anticoagulation and AF ablation (64.7 and 49.0% of centres, respectively). This EP Wire Survey shows that in Europe considerable amount of time and resources are used in daily clinical practice to inform AF patients about their risk profile and available therapies. However, a diversity of strategies used across the European hospitals was noted, and further research is needed to better define optimal strategies for informing AF patients about their risk profile and treatment options.

## Keywords

Atrial fibrillation • Stroke • Risk • Anticoagulation • Non-vitamin K oral anticoagulants • Rhythm control • Rate control • Ablation • Patient preferences • Education • EHRA survey • EP wire

## Introduction

Current atrial fibrillation (AF) guidelines recommend discussion with AF patients about their values and treatment preferences.<sup>1–3</sup> In order to make an informed decision about treatment acceptance or refusal, AF patients need to understand not only the arrhythmia, but also the benefits and risks of recommended therapy. This European Heart Rhythm (EHRA) electrophysiology (EP) Wire survey aimed at exploring the common practices in approaching AF patients

and informing them about their risk profiles and available therapies in the EP network centres in Europe.

## Methods and results

### Participating centres

This survey is based on a questionnaire sent via the internet to the EHRA-EP research network centres. Of 53 respondents, 35 (66.0),

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10 (18.9) and 8 (15.1%) were university, general, or private hospitals, respectively. Whilst AF ablation was not available in 11 (20.8%) of the centres, 21 (39.6%) performed <100 AF ablations per year, 9 (17.0%) performed 100–299 procedures, and 12 (22.6%) performed  $\geq$ 300 AF ablations per year.

## Centres capacities for management of atrial fibrillation patients

In most centres (77.3%) physicians typically see  $\geq$ 11–15 AF patients per week (Figure 1A). At first visit, patients are seen mostly by general cardiologists (86.8%) or arrhythmologists (64.2% of centres, Figure 1B). First visits most commonly lasted 21–30 min (41.5%), and follow-up visits took 11–20 min (69.8%, Figure 1C). Most centres did not have an official checklist of AF-related issues to be covered with, or an AF brochure to be handed to patients during their first visit; instead, these centres used discussion based on the patient risk profile and presentation (Figure 1D).

## Stroke and bleeding risk communication

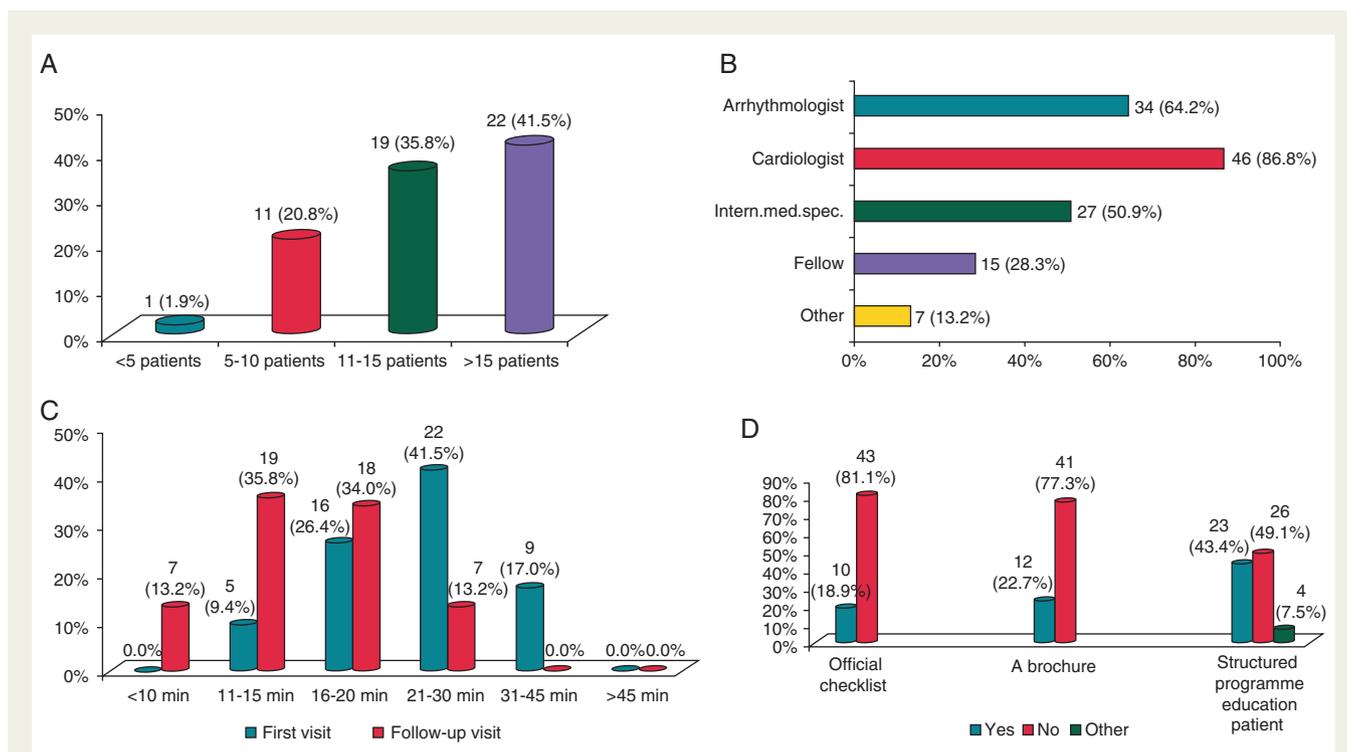
Stroke and bleeding risk communication had the highest priority among the issues for discussion with AF patients in most centres (80.2%, Figure 2A). Individual patient stroke risk was re-assessed at every visit in 69.2% of the centres (Figure 2B). Nearly half the centres (43.4%) had a structured programme for patient education about stroke prevention, whilst others did not (Figure 1D). To explain the risk of stroke, most centres ( $n = 48$ , 92.3%) used a detailed conversation with AF patients. In addition to verbal discussion, 12 (23.1%) of the centres used illustration materials provided

by pharmaceutical companies, 9 (17.3%) used other printed materials, 9 provided their patients with the links to relevant websites, and 6 (11.5%) of the centres referred AF patients to a specialized nurse or a health psychologist (one centre). None of the centres considered the use of mobile phone applications for stroke risk communication.

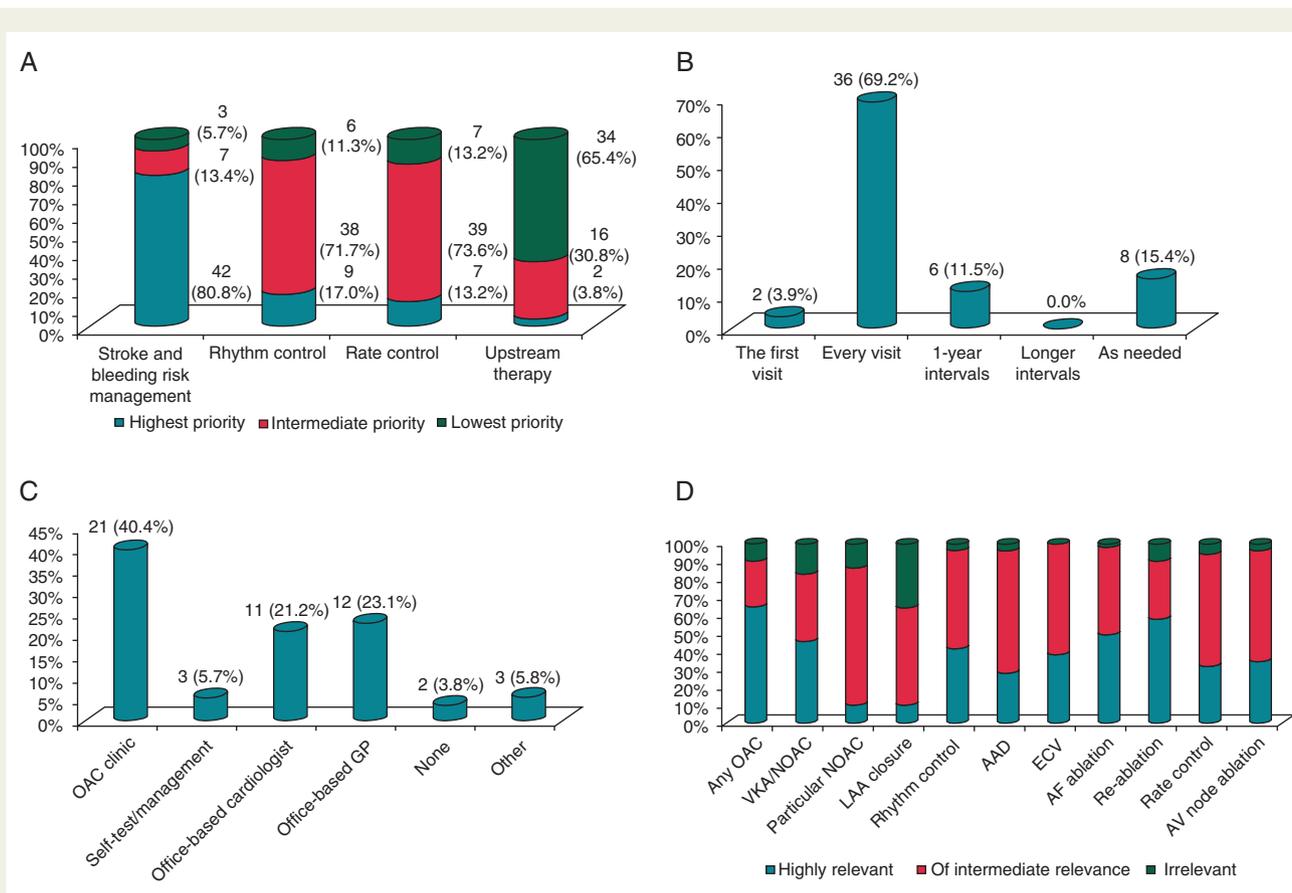
## Oral anticoagulant therapy

Hospital-based resources for oral anticoagulation (OAC) management are shown in Figure 2C. Most centres (46.1%) had a hospital-based anticoagulation clinic, whilst patients would make scheduled visits to office-based cardiologists or general practitioners in 21.2 and 23.1% of centres, respectively. Regular International Normalized Ratio (INR) management and OAC dosing were done by cardiologists ( $n = 32$ , 61.5%), internal medicine specialists ( $n = 18$ , 34.6%), general practitioners ( $n = 11$ , 21.2%), or a nurse in cardiology department ( $n = 7$ , 13.5%), whilst in 11 centres (21.2%) it was the responsibility of a haematologist, neurologist, or transfusionist.

In the majority of the centres, information about non-vitamin K oral anticoagulants (NOACs) was communicated to all AF patients eligible for OAC ( $n = 20$ , 38.5%) or to those who were either warfarin-naïve or unstable on warfarin ( $n = 22$ , 42.3% of centres), whilst a minority of centres proposed NOACs only to patients unwilling to take VKAs or in whom difficulties with INR monitoring were anticipated ( $n = 7$ , 13.5%), or to newly-diagnosed AF patients only ( $n = 2$ , 2.8% of centres). When choosing among the NOACs, most centres ( $n = 41$ , 78.9%) considered the individual patient risk profile and national or international guidelines, and there were no significant difference among university ( $n = 27$ , 77.1%), general ( $n = 5$ ,



**Figure 1** Centres capacities for management of AF patients. (A) Average number of AF patients seen by physician per week. (B) Specialties seeing AF patients at their first visit. (C) Time physicians spend with an AF patient per first and follow-up visit. (D) Centre's official checklist of AF-related issues to be covered during first visit, a brochure for patients and structured programme for patient education. AF, Atrial fibrillation.



**Figure 2** Stroke and bleeding risk communication and OAC management. (A) Physician's priorities in discussing the AF-related issues with patients. (B) The frequency of stroke risk re-assessment. (C) Resources for OAC management (anticoagulation clinic or a dedicated service). (D) The relevance of patients' preferences for treatment. AF, Atrial fibrillation; OAC, Oral anticoagulation; GP, General practitioner; VKA, Vitamin K antagonist; NOAC, Non-vitamin K antagonist; LAA, Left atrial appendage; AAD, Antiarrhythmic drug; ECV, electrical cardioversion; AV, atrioventricular.

62.5%) or private hospitals ( $n = 9$ , 100%) in this regard ( $P = 0.153$ ). In 9 (17.3%) centres physicians relied on their clinical experience with a particular NOAC, in 1 (1.9%) centre physicians chose the drug available in their hospital and in 1 centre the choice of NOAC was based on the patient preference.

Regarding the monitoring strategies for the adherence to NOAC therapy, 39 (75.0%) of the centres relied on the patient awareness and collaboration, and in 8 (15.4%) patients were requested to sign a statement that they have been informed about the risks of non-adherence to NOAC therapy. Patient education programmes were available in 3 (5.8%) of the centres, whilst only 2 (3.8%) had a structured medication adherence follow-up programme based on a pill count at regular time intervals (none of the centres used electronic devices or mobile phone technologies for monitoring the adherence to NOAC therapy).

### Patient attitude towards oral anticoagulant therapy

According to the centre's clinical experience, the strongest drivers for patients to choose an NOAC over a VKA were fixed dosing without the need for routine laboratory monitoring of the

anticoagulation effect ( $n = 47$ , 90.5%), patient fear of bleeding ( $n = 3$ , 5.8%), and patient fear of stroke or no discernible reason (one centre each).

Based on the centres' estimates, the percentage of patients who would refuse OAC despite being informed about benefits and risks of therapy was 0 in 7 (13.7%) of the centres,  $\leq 10\%$  in 30 (58.8%), 11–20% in 11 (21.6%) and 21–30% in 3 (5.9%) of the centres. None of the centres reported an estimate of  $>30\%$  and two centres have not responded. The predominant reason for OAC refusal was patients' fear of bleeding with OAC ( $n = 21$ , 41.2% of the centres), under-appreciation of stroke risk despite adequate information ( $n = 11$ , 21.6%), insufficient patient education about stroke risk ( $n = 8$ , 15.7%) or unknown or other reasons ( $n = 11$ , 21.6%).

### Approach to AF catheter ablation

When recommending AF ablation to their patients, physicians took sufficient time to explain the risks and benefits of the procedure in 47 (92.2%) of the centres. In addition to detailed conversation, physicians supplied their patients with written information about AF ablation in 13 (25.5%) of the centres, provided links to the websites

with relevant information in 4 (7.8%), referred their patient to a nurse who gives the information in 2 (3.9%), or had no (or other) strategy ( $n = 3$ , 5.9%).

According to the centre's clinical experience, the strongest drivers for patients to choose AF ablation were significant AF symptoms, failure of electrical cardioversion (ECV), or antiarrhythmic drug therapy, a strong desire to have normal heart rhythm or physician's suggestion that ablation will 'cure' AF in 27 (52.9%), 3 (5.9%), 13 (25.5%) and 6 (11.8%) of the centres, respectively. No particular reason could be discerned in 2 (3.9%), and none of the centres considered that their patients would view AF ablation as an opportunity to stop long-term OAC.

## Post-procedural care after electrical cardioversion or atrial fibrillation ablation

Until discharge, ECV patients who underwent ECV have been cared for by cardiologists in 34 (66.7%) of the centres, cardiology fellows in 16 (31.4%), fellows in general practice in 2 (3.8%), or nurses in 9 (17.6%). Post AF ablation patients have been cared for by cardiologists in 36 (70.6%) of the centres, cardiology fellows in 12 (23.5%), or nurses in three centres, whilst fellows in general practice were not in charge for post-ablation AF patients in any of the centres.

## Relevance of patient values and preferences for treatment decision-making

The influence of AF patient preferences on treatment decisions is shown in Figure 2D. Patient attitude was of highest relevance for institution of any OAC ( $n = 33$ , 64.7% of the centres), the choice between VKAs and NOACs ( $n = 23$ , 45.1%), AF ablation ( $n = 25$ , 49.0%), and re-ablation ( $n = 29$ , 58.0%), whilst patient preferences regarding the left atrial appendage closure were rarely considered highly relevant ( $n = 5$ , 10.0%). Patient preferences were of intermediate relevance for the choice of rhythm or rate control (Figure 2D).

## Discussion

This EP Wire provided an insight into European common practices in approaching AF patients and informing them about their risk profiles and available therapies. The survey mostly reflects common practice of general cardiologists and arrhythmologists, and the low response rate is a limitation.

## Centres capacities for management of atrial fibrillation patients

With respect to AF management, most respondents were 'moderate' to 'high-volume' centres seeing 50 or more AF patients per month. Both the first and follow-up visits were of sufficient duration to allow for a detailed discussion with AF patients. Indeed, it has been shown that patients prefer to receive information about AF from their physician.<sup>4</sup> However, more than three-quarters of the centres had no official checklist of AF-related issues or an AF brochure for patients. Hence, capacities for management of AF patients in current clinical practice may be further improved.

## Stroke and bleeding risk communication

Stroke and bleeding risk communication had the highest priority among the AF-related issues for discussion with AF patients in this survey. A recent study has shown that AF patients have a variety of attitudes towards stroke prevention in AF,<sup>5</sup> and at least some of those could be modified by increasing the patient knowledge about AF. In this EP Wire, however, only 43% of the centres had a structured patient education programme about stroke prevention, but when explaining stroke and bleeding risks the centres used various methods in addition to detailed conversation with AF patients. It has been shown that educational interventions significantly influence the patients knowledge and perception of AF, and reinforcement of information during follow-up further improves the results.<sup>6</sup>

When evaluating the risk of stroke in AF patients, efforts should be made not to miss the development of risk factors during follow-up. It has been shown that stroke risk increases with time, due to ageing and development of comorbidities.<sup>7</sup> In this EP Wire, however, only 69% of the centres assessed stroke risk in their AF patients at every visit, whilst around 20% of centres performed the re-assessment in intervals longer than 1 year.

## Oral anticoagulant therapy

There was a variety of strategies for management of VKA therapy, and anticoagulation clinic was available in 40% of the centres. Also, there were some differences among centres regarding AF patient subsets that were informed about NOACs by their physician. In most centres, the information about NOAC was communicated to warfarin-naïve and patients unstable on VKAs (42%), or to all AF patients eligible for OAC (38%), whilst some centres informed only patients unwilling to take VKAs, those in whom difficulties with INR monitoring were anticipated, or patients with newly-diagnosed AF. Of note, some differences also exist among AF guidelines—in the European and Canadian AF guidelines, for example, NOACs are preferable to VKAs in all patients, whilst the US guidelines do not make such distinction.<sup>1–3,8</sup>

When choosing an NOAC for their patients, physicians in most centres (79%) consider the individual patient risk profile and AF guidelines, or rely on their own clinical experience with a particular NOAC (17%). Still, a more specific guidance could perhaps facilitate the choice of an appropriate NOAC for a given patient. Due to relatively short half-lives of NOACs, the adherence to medication is crucial for their efficacy.<sup>1,2,9,10</sup> However, as many as 75% of centres do not have a strategy for monitoring the adherence to NOAC therapy, apart from relying on the patient awareness and collaboration. This underscores the need to better define strategies for monitoring the adherence to NOACs in routine clinical practice.<sup>11</sup>

## Patient attitude towards oral anticoagulant therapy

As estimated by 59% of the participating centres,  $\leq 10\%$  of AF patients would still refuse OAC, despite being informed about benefits and risks of therapy, whilst in 22% of the centres even 11–20% of AF patients would do so. Available data suggest that there is a multitude of reasons for OAC refusal, including patient knowledge gaps and misperceptions of OAC risks and benefits, which can be corrected by an educational intervention.<sup>12</sup> However, some patients

remain 'drug averse', as shown in a recent study of AF patient attitude towards stroke prevention and risk of bleeding, wherein around 12% of patients would have refused OAC even if it were 100% effective in stroke prevention.<sup>5</sup>

## Approach to atrial fibrillation catheter ablation and post-procedural care

In the majority of the responding centres (92%), a detailed explanation of AF ablation by physicians was the main approach to supplying patients with information about the procedure, and about a third of centres combined conversation with other strategies. Cardiologists were more involved in the post-procedural care of patients who underwent AF ablation, compared with care post ECV.

## Relevance of patient values and preferences for treatment decision-making

Eliciting and acknowledging the patient values and preferences for AF treatment is necessary for a shared decision-making which should facilitate patient adherence to therapy and ensure their persistence with treatment.<sup>6,12</sup> In this survey, participating centres gave the highest priority to patient preferences regarding the institution of OAC therapy (65% of centres) and the choice between VKAs or NOACs (45% of centres). Patient preferences were also highly relevant with respect to AF ablation in 49% of centres. Hence, there are many opportunities for a more inclusive approach to AF patients in treatment decision-making in routine clinical practice.

## Conclusions

This EP Wire survey shows that a considerable amount of time and resources are used in daily clinical practice to inform AF patients about their risk profile and available therapies in Europe, and that patients are involved to some extent into treatment decision-making. However, a diversity of strategies used across the European hospitals was noted, and further research is needed to better define optimal strategies for informing AF patients about their risk profile and treatment options.

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## References

1. Camm AJ, Kirchhof P, Lip GY, Schotten U, Savelieva I, Ernst S et al. Guidelines for the management of atrial fibrillation: the Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology (ESC). *Europace* 2010;**12**:1360–420.
2. Camm AJ, Lip GY, De Caterina R et al. 2012 focused update of the ESC guidelines for the management of atrial fibrillation: an update of the 2010 ESC Guidelines for the management of atrial fibrillation. Developed with the special contribution of the European Heart Rhythm Association. *Europace* 2012;**14**:1385–413.
3. January CT, Wann LS, Alpert JS et al. 2014 AHA/ACC/HRS guideline for the management of patients with atrial fibrillation: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the Heart Rhythm Society. *Circulation* 2014.
4. Aliot E, Breithardt G, Brugada J et al. An international survey of physician and patient understanding, perception, and attitudes to atrial fibrillation and its contribution to cardiovascular disease morbidity and mortality. *Europace* 2010;**12**:626–33.
5. Lahaye S, Reggala S, Lacombe S et al. Evaluation of patients' attitudes towards stroke prevention and bleeding risk in atrial fibrillation. *Thromb Haemost* 2014;**111**:465–73.
6. Lane DA, Barker RV, Lip GY. Best practice for atrial fibrillation patient education. *Curr Pharm Des* 2014;**21**:533–43.
7. Potpara TS, Stankovic GR, Beleslin BD et al. A 12-year follow-up study of patients with newly diagnosed lone atrial fibrillation: implications of arrhythmia progression on prognosis: the Belgrade Atrial Fibrillation study. *Chest* 2012;**141**:339–47.
8. Skanes AC, Healey JS, Cairns JA et al. Focused 2012 update of the Canadian Cardiovascular Society atrial fibrillation guidelines: recommendations for stroke prevention and rate/rhythm control. *Can J Cardiol* 2012;**28**:125–36.
9. Vrijens B, Heidbuchel H. Non-vitamin K antagonist oral anticoagulants: considerations on once- vs. twice-daily regimens and their potential impact on medication adherence. *Europace* 2015; doi:10.1093/europace/euu311.
10. Lip GY, Bongiorni MG, Dobreaanu D, Lewalter T, Hastrup Svendsen J, Blomström-Lundqvist C; Scientific Initiative Committee, European Heart Rhythm Association. Novel oral anticoagulants for stroke prevention in atrial fibrillation: results of the European Heart Rhythm Association survey. *Europace* 2013;**15**:1526–32.
11. Heidbuchel H, Verhamme P, Alings M et al. European Heart Rhythm Association Practical Guide on the use of new oral anticoagulants in patients with non-valvular atrial fibrillation. *Europace* 2013;**15**:625–519.
12. Lane DA, Lip GYH. Patient's values and preferences for stroke prevention in atrial fibrillation: balancing stroke and bleeding risk with oral anticoagulation. *Thromb Haemost* 2014;**111**:381–3.