

# IMPACT OF ATRIAL FIBRILLATION IN ONCO-HEMATOLOGICAL PATIENTS IN EUROPE: A TARGETED LITERATURE REVIEW

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## INTRODUCTION

- Atrial fibrillation (AF) is a common complication in patients with active cancer and their treatment poses a major challenge. Despite the advantages of using Bruton Tyrosine Kinase inhibitors (BTKi) in hemato-oncology disease management, the added risk of certain adverse events such as AF should not be neglected<sup>1,2</sup>.
- The current review aimed to determine the clinical and economic burden of AF in onco-hematological patients in Europe.

## METHODS

- Electronic databases (Pubmed, Science Direct, MEDS, IBECS, eSalud) were searched to identify European studies published between January 2010 and January 2022.
- An additional search was performed to find other studies of interest and any additional literature published in medical congresses (EHA, SEHH-SETH, ISPOR).
- Studies were selected based on the following inclusion and exclusion criteria (Table 1).

Table 1: Eligibility criteria

	Inclusion criteria	Exclusion criteria
Population	Onco-hematological diseases diagnosed with AF	Other
Outcomes	<ul style="list-style-type: none"><li>Epidemiology</li><li>Healthcare costs</li><li>Management of complications and risk factors</li><li>Patient journey and treatment patterns</li><li>HRQoL</li></ul>	Only reporting ICER or ICUR
Study design	Observational, prospective, retrospective, case studies and reviews	Letters to the editor, RCTs
Language	English, Spanish	Other languages

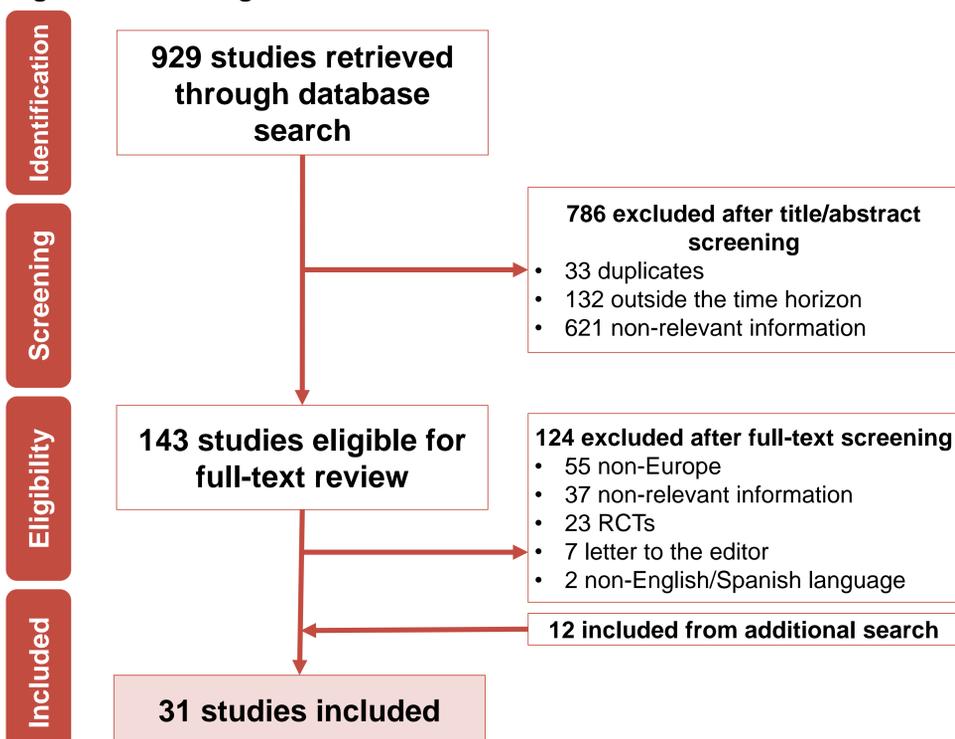
AF, atrial fibrillation; HRQoL, health-related quality of life; ICER, incremental cost-effectiveness ratio; ICUR, incremental cost-utility ratio; RCT, randomized clinical trial.

## RESULTS

- A total of 31 studies were eligible to be included for review (Figure 1).
- Among these studies, 23 included information on epidemiology, 16 on treatment patterns, 8 on risk factors and 4 on management of complications.
- No data on healthcare costs, health-related quality of life and patient pathway were identified.
- The studies were performed in 14 different European settings\*, including Spain (10), Italy (8), Belgium (2), France (2), the Netherlands (2), Sweden (2), United Kingdom (2), Austria (1), Croatia (1), Greece (1), Poland (1), Portugal (1), Switzerland (1) and Turkey (1).

\*Note that one study can be performed in different settings.

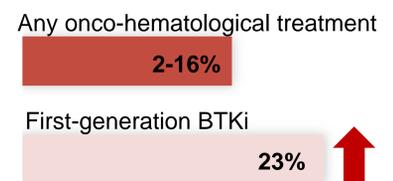
Figure 1: Flow diagram of included studies



RCT, randomized clinical trial.

### Epidemiology

- The incidence of AF during onco-hematological treatment varies from 2% to 16% and increases up to 23% with the use of first-generation BTKi<sup>1,3,4</sup>.



### Risk factors

- The main risk factors for AF include<sup>3-6</sup>: older age ( $\geq 65$  years), male gender and comorbidities (hypertension, history of cardiovascular disease or AF, diabetes mellitus, respiratory problems, hyperlipidemia, thrombocytopenia).
- First-generation BTKi increased significantly the risk of AF compared to other treatments ( $p < 0.001$ )<sup>7,8</sup>.



- In chronic lymphocytic leukemia, the risk of AF was 15 times higher in patients treated with first-generation BTKi than non-treated patients ( $p < 0.001$ )<sup>4</sup>.

### Management of complications

- AF-related complications require anticoagulant and/or antiarrhythmic therapy, and regular monitoring to control the rhythm and cardiac frequency<sup>9</sup>.
- The CHA<sub>2</sub>DS<sub>2</sub>-VASc score ( $\geq 2$ ) and the time from diagnosis determine the need for anticoagulants<sup>9</sup>. The CHA<sub>2</sub>DS<sub>2</sub>-VASc score predicts the risk of stroke in patients with AF based on the presence of congestive heart failure, hypertension, age, diabetes, stroke, vascular disease and gender.

### Treatment patterns

- Direct oral anticoagulants are preferred over vitamin K antagonists and low-molecular-weight-heparin due to the lower risk of major bleeding, favorable risk-benefit profile and easy administration<sup>10-13</sup>.
- Beta-blockers should be favored in patients with heart failure or at risk of ventricular dysfunction<sup>10,14</sup>.
- When AF or other cardiovascular events are no longer controllable, the dose should be reduced, or treatment should be withdrawn<sup>15</sup>.

## CONCLUSIONS

- There is scarce and heterogeneous information about AF in onco-hematological patients in Europe.
- Available evidence reports a high risk of developing AF associated with the use of first-generation BTKi and comorbidities. Further studies are needed to help understand the clinical and economic burden of AF in onco-hematological patients in the European countries.
- Due to the constant development of pharmacological innovations in onco-hematology, periodic updates of the literature are required.

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