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Costs and consequences of cardiovascular toxicity due to Bruton's tyrosine kinase inhibitors in chronic lymphocytic leukemia

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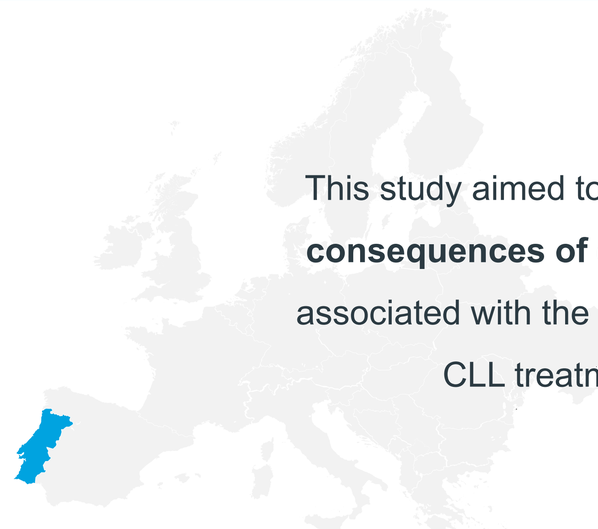
1 BACKGROUND AND OBJECTIVE

Bruton Kinase inhibitors (BTKis) revolutionized the treatment landscape of chronic lymphocytic leukemia (CLL)

↑ risk of cardiovascular toxicity reported among CLL patients treated with BTKis [1]



This study aimed to estimate the **costs and consequences of cardiovascular toxicity** associated with the **different BTKis** used for CLL treatment in Portugal

2 METHOD

CONSEQUENCES

2 literature reviews (May 2024)

a) Identification of comparative safety data[2-4]

Incidence of any grade **cardiovascular adverse events** among CLL patients treated with different BTKis

- Bleeding events
- de novo atrial fibrillation
- Hypertension

b) Health-related outcomes consequences of atrial fibrillation and hypertension among CLL patients[5,6]

COSTS

Payers' perspective

- Diagnosis
- Treatment of cardiovascular toxicity
- Monitoring

calculated for **1** year

Atrial fibrillation and hypertension

Inpatient costs

Derived from the **Portuguese Hospital Morbidity Database (2018)**

Outpatient costs

Estimated from an **expert panel**

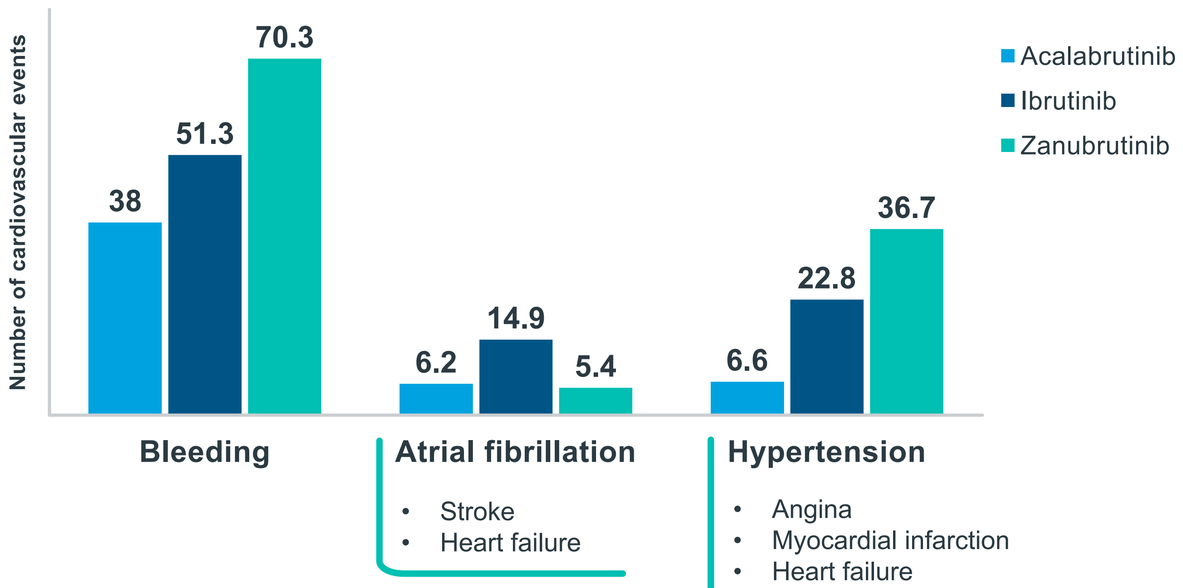
5 Physicians specialized in **CLL patients care**

Costs derived from the literature

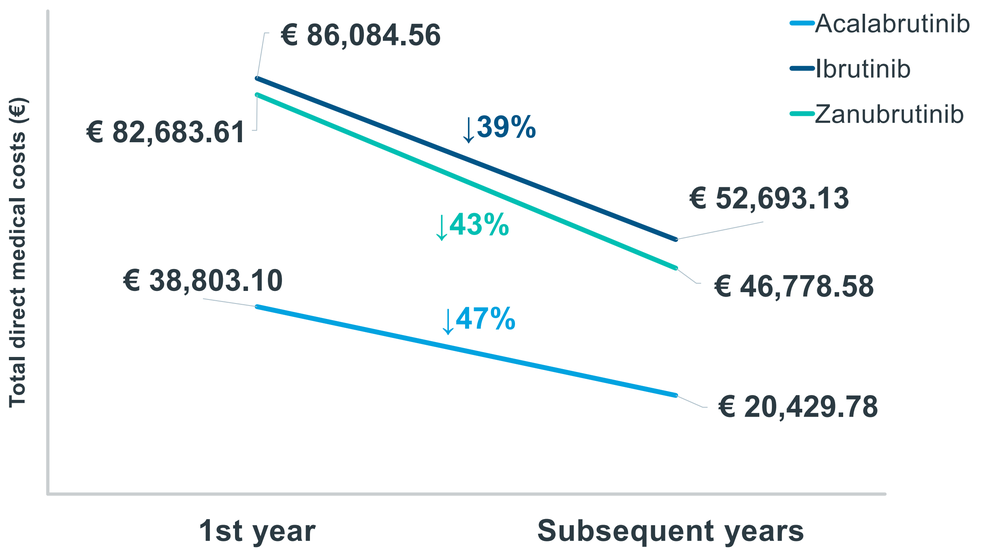
- **Bleeding events**[7]
- Angina, myocardial infarction, heart failure, peripheral arterial disease and stroke[8]

3 RESULTS

Number of cardiovascular events per 100 CLL patients treated per year



Cost (€) per 100 CLL patients treated per year



4 CONCLUSIONS

The **clinical** and **economic burden** of **cardiovascular toxicity** from BTKis treatment in CLL patients is **notable**.

Ibrutinib — **↑ costs, more frequent health consequences**

Acalabrutinib — **↓ overall impact**

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