

SUMMARY

Background

Atrial fibrillation (AF) is the most common arrhythmia in clinical care and its prevalence is getting higher. One of the most serious AF complications is left atrium appendage (LAA) thrombus which can cause stroke. LAA thrombus is also a clear contraindication to electric cardioversion and catheter ablation, which is the most effective treatment for a rhythm control strategy. Oral anticoagulation is initiated to reduce thromboembolic risk. There is scarce data in literature what action should be undertaken when a LAA thrombus is diagnosed despite optimal oral anticoagulation (OAC).

Aims

The aim of this study was to assess clinical effectiveness and safety of different treatment strategies of LAA thrombus resolution in patients already on OAC who are scheduled for CV or catheter ablation

Methods

The study was conducted in National Institute of Cardiology in Warsaw under statutory research 4.12/IV/19 'Clinical effectiveness of daily practice pharmacological strategies in patients with left atrium appendage thrombus despite anticoagulation'.

All demographic, clinical and ecocardiographic data as well as anticoagulation regimes were retrospectively collected in patients who have fulfilled all of the inclusion criteria and have not fulfilled any of the exclusion criteria.

The following LAA thrombus treatment strategies have been distinguished:

- 1 – switch to drug of different mechanism of action (e.g. VKA → NOAC)
- 2 – switch to drug of similar mechanism of action (e.g. NOAC → NOAC)
- 3 – implementation of combination therapy
 - 3a – by adding antiplatelet therapy (e.g. NOAC → NOAC + clopidogrel)
 - 3b – by switching antithrombotic drug and adding APT (e.g. NOAC → VKA + clopidogrel)
 - 3c - by adding second antithrombotic drug (e.g. VKA → VKA + LMWH)
- 4 - deliberate no change in treatment

Due to contraindication to NOAC patients with mechanical valve implanted or moderate to severe mitral stenosis were excluded from the analysis

Results

Analysis of over 8 thousand patients identified a group of 129 patients were treated for a total of 181 cycles of OAC. Each cycle was treated as an independent case.

Overall 51,9% patients succeeded in dissolving the LAA thrombus.

On multivariate analysis bigger left atrium area and higher number of treatment cycles were adversely related to thrombus resolution.

Analysis comprising all 181 cycles of treatment showed no superiority of any particular strategy in dissolving the LAA thrombus ($p=0,254$), however, any change in treatment was superior to deliberate no change (OR=2,97; $p=0,031$)

Subanalysis of only the first cycle of treatment (129 cycles) yielded similar results, respectively: $p=0,059$ and $p=0,02$.

Treatment applied in our study appeared to be relatively safe. There were only 2 ischemic complications and 3 hemorrhagic complications (not requiring blood transfusion)

Conclusion

1. Any change in OAC resulted in 3 times higher chance of dissolving LAA thrombus in comparison to no change in previous treatment.
2. No particular OAC strategy seems to be superior to others.
3. Overall success rate was 51,9% which is similar to results yielded by other studies in literature comprising both patients on optimal OAC and OAC-naive.
4. Larger left atrium area and numerous changes in OAC are adversely related to successful LAA thrombus dissolution
5. OAC treatment applied in our study was safe, there were only few side effects reported.

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