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COMMENTARY

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Antithrombotic therapy after TAVI: Better alone than with a bad company

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Key points

- In transcatheter aortic valve implantation (TAVI) subset, previous randomized controlled trials reported increased mortality when anticoagulant therapy was used in subjects without a previous oral anticoagulation (OAC) indication.
- The current meta-analysis confirms the worse clinical outcomes in anticoagulated patients as compared to subjects treated with antiplatelet, tough less subclinical valve thrombosis was found in the OAC group.
- At present, antiplatelet therapy (especially SAPT) seems the most reasonable approach in TAVI patients without indications for chronic OAC.

Among patients who benefited from a successful transcatheter aortic valve implantation (TAVI) and without indication for chronic oral anticoagulation (OAC), the use of temporary dual antiplatelet therapy (DAPT) followed by single antiplatelet therapy (SAPT) long-life has been the treatment of choice for many years, based on the rational that transcatheter valves would behave similarly to a coronary stent. More recently, the POPular TAVI trial (cohort A) demonstrated that SAPT with aspirin after TAVI was superior to DAPT with aspirin plus clopidogrel for 3-months in terms of bleedings, without increasing ischemic risk.[1] These results led to class I recommendation for SAPT after TAVI in the latest European guidelines on heart valve diseases.[2] Three randomized trials (RCTs, ADAPT-TAVR, ATLANTIS, and GALILEO) tried to evaluate the role of direct OACs (DOACs) use after TAVI in patients without previous OAC indications.[3] The rational was the prevention of subclinical leaflet thrombosis, which is frequent (1–2 patients out of 10 in the first year after TAVI) and might potentially increase the risk for embolic events. However, all these studies found an increase in mortality in patients treated by OAC. Thus, OAC use after TAVI had a class III recommendation in the European Guidelines.[2]

In this issue of CCI, Moreira et al.[4] provide a systematic review and meta-analysis comparing DOACs versus antiplatelet therapy after TAVR in patients without previous indication for OAC. All three pre-cited RCTs were included with a total of 2922 patients, of whom 1463 (50.1%) received DOACs. Overall, the median age was 80 years old, and the median STS was below 4. Patients who received DOACs showed a lower risk of valve thrombosis (risk rato [RR] 0.27, $p < 0.0001$) but a higher all-cause (RR 1.68; $p = 0.001$) and noncardiovascular (RR 2.33; $p = 0.02$) mortality. Conversely, no differences were found in terms of major bleeding, ischemic stroke, and CV mortality. Although some limitations have to be accounted for, the value of the present results is to confirm the adverse clinical effect of DOACs use, without heterogeneity among trials. Thus, the present analysis further supports current guidelines recommendations which discourage OAC use in TAVI patients. Actually, these data seem to confirm also that leaflet thrombosis is not a major predictor of embolic events, as already shown by others.[3] Conversely, it remains unclear (and worrying) how OAC use in this subset of patients increases all-cause and non-CV mortalities, without an increase in overall bleeding events. Further patient-level analyses are needed to explore the potential relationship between either OAC or DAPT/SAPT regimens and specific sources of bleeding (which might be responsible for the observed increased mortality even with similar overall bleeding rates).

In conclusion, this analysis is another brick in the wall of antithrombotic regimen after TAVI, providing new evidence against

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OAC use in TAVI patients without previous OAC indications. Further studies are needed to understand the optimal antithrombotic regimen in younger and less sick patients with longer life expectancy after TAVI.[5]

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CONFLICTS OF INTEREST STATEMENT

The authors declare no conflict of interest.

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