Oral anticoagulants in extremely high risk very elderly (>90 years) patients with Atrial Fibrillation

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Background:
The prevalence and incidence of atrial fibrillation (AF) increases with age, resulting in a high mortality and morbidity, especially from stroke and systemic thromboembolism (SSE). Nonetheless, the elderly are often denied oral anticoagulants (OACs), especially if they are ‘very elderly’ (age ≥90 years) and perceived to be ‘high risk’ of bleeding, for example, those with a history of intracranial haemorrhage (ICH), gastrointestinal bleeding or chronic kidney disease. We aimed to investigate the effectiveness and safety of OAC in this ‘high risk’ very elderly group.

Methods:
We used the Taiwan National Insurance Database to identify ‘high risk’ very elderly subjects taking OACs, whether warfarin or non-vitamin K antagonist OACs (NOACs), who were compared to non-OAC users for the composite clinical endpoint of ‘ischemic stroke, ICH, major bleeding or mortality’. Propensity score matching was used for comparisons of the treatment groups.

Results:
We studied 7,362 subjects (48.4% males; mean age 92.5 years, SD 2.78), of which 1737 were taking NOACs, 670 warfarin and 4955 were non-OAC users. Using non-OAC users as the reference group, warfarin use in ‘high risk’ very elderly patients was associated with a higher risk of the composite endpoint (adjusted hazard ratio [aHR] 1.163, 95%CI 1.052-1.287), while NOACs were associated with a lower risk (aHR 0.763, 0.702-0.830). After propensity matching, NOACs were associated with a lower risk of events compared to "non-OAC use" or "warfarin", while warfarin had a similar risk compared to non-OAC use (Figure).

Conclusions:
Warfarin was associated with a similar (after propensity matching) or higher (Cox model before matching) risk of the composite clinical outcome compared to non-OAC use. NOACs were associated with a significantly lower risk of the composite clinical outcome compared to warfarin or non-OAC use. NOACs should be considered as the preferred OAC strategy in these ‘high risk’ very elderly AF patients.