Atrial Fibrillation is independently associated with the risk of falling & syncope in older patients: A systematic review and meta-analysis

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**Introduction**: The presence of Atrial Fibrillation (AF) rises significantly in older adults and is becoming increasingly recognised as a risk factor for dementia. However, although there is evidence of autonomic dysfunction contributing to Orthostatic Intolerance (OI), whether AF is an independent risk factor for falls and syncope is not established. We undertook a systematic review and meta-analysis of studies that reported the association of AF to falls, syncope and OI to assess whether the presence of AF is an independent risk factor.

**Methods**: PubMed, CENTRAL and EMBASE databases were searched from inception to April 2018 to retrieve relevant studies. Where possible; results were pooled using a random effects model.

**Result**: 5352 reports were screened. Nine studies were identified; the association of AF to falls was assessed in 6 studies, comprising 34,514 patients (mean age 74±9 years); AF to syncope in 3 studies (6769 patients, 65±3 years). Meta-analyses demonstrate that AF is independently associated with falls (OR 1.15; 95% CI 1.04 – 1.28; P=0.007, Figure 1A) and syncope (OR 1.88; 95% CI 1.20-2.94; P=0.006, Figure 1B). Persistent AF was associated with OI in one study (4408 patients, 66±6 years).

**Conclusion**: AF is an independent risk factor for falls, syncope and orthostatic intolerance in older adults. Recognising this susceptibility is imperative to identifying new methods to improve quality of life and outcomes in patients with AF.