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THE IMPACT OF ISCHEMIC STROKE ON ATRIAL FIBRILLATION-RELATED HEALTHCARE COST: A SYSTEMATIC REVIEW

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OBJECTIVES: To summarize healthcare costs incurred from patients with atrial fibrillation (AF) who developed ischemic stroke and to explore the factors associated with increased cost, thereby highlighting the importance of anticoagulation therapy for stroke prophylaxis. **METHODS:** Based on PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guideline, a systematic literature search of PubMed, EMBASE, Web of Science and the health economic evaluation database was conducted till December 2015. Studies which focused on the cost and/or resource utilization of ischemic stroke in patients with AF were included. Reported costs were converted to international dollars (\$) and adjusted to 2015 values. Alongside the narrative review of included studies, Spearman's correlation, independent-samples t-test and one-way ANOVA were used to explore the factors associated with cost differences between studies. **RESULTS:** Sixteen studies published from nine different countries were identified. Based on currency conversion rates in 2015, ischemic stroke related healthcare costs in patients with AF were estimated to be \$41,420, \$12,895 and \$8,184 for high-income, upper middle-income and lower middle-income economies respectively. Local GDP per capita accounted for approximately 50% of the healthcare cost variation among countries ($r^2=0.499$, $p=0.01$). Major component of overall costs was hospitalization cost (42.8% to 75.5%). Ischemic stroke incurring in patients with AF ≥ 75 years was 2.3 times as that for their younger peers ($p=0.049$). **CONCLUSIONS:** The economic burden from ischemic stroke in patients with AF is considerable with positive association with the country's income. Clinicians and stakeholders should be aware of the occurrence of stroke, importance of anticoagulation therapies in stroke prophylaxis, and its downstream economic burden on the growing ageing population.