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**COG EFTIVESTICITY ANALYSIS OF ARIXABA**N IN THE PREVENTION OF THROMBOEMBOLIC EVENTS IN PATIENTS WITH NON-VALVULAR ATRIAL FIBRILLATION IN GUATEMALA IN 2014

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**BACKGROUND:** Atrial fibrillation (AF) is associated with development of thromboembolic events [1]. The standard therapy used in patients with non-valvular atrial fibrillation (NVAF) with risk of stroke is Warfarin. There are new oral anticoagulants (NOACs) that also are recommended [2].

**OBJECTIVES:** Evaluate cost-effectiveness of Apixaban compared to Warfarin in the prevention of thromboembolic events in NVAF patients from perspective of Guatemala’s Public HealthCare System (IGSS).

**Methods:** A Markov decision-analysis model was designed using data from randomized clinical trials (direct comparisons), and life expectancy rates. The model was used to evaluate lifetime costs and quality-adjusted life-years (QALY) of Apixaban (5mgBID) in comparison to Rivaroxaban (20mg/day) and Warfarin (5mg/day). IGSS used Warfarin and Rivaroxaban in NVAF patients. The health states evaluated were: ischemic and hemorrhagic strokes, 71 hemorrhagic events, 1 MI and 3 SE in comparison to Warfarin. Overall costs in a lifetime period per patient were US$9,190; US$11,763; US$12,045 for Warfarin, Apixaban, and Rivaroxaban respectively. The high-est QALY 5.740, Rivaroxaban reported 5.699 and Warfarin 5.750. Used Warfarin as a base, the ICER of Apixaban and Rivaroxaban were US$15,135 and US$21,961 respectively.

**Results:** Patients that received Apixaban showed cost-effectiveness in comparison with Warfarin according to the IGSS’s 3GPB (US$10,400) in the 6 months. The incremental cost-effectiveness ratio (ICER) was determined for the cost-effectiveness analysis and comparisons of the three groups with intensive doses (Sимвatrin 40 mg/day and Atorvastatin 20-40 mg/day monotherapy or combination therapy with Ezetimibe 10 mg) on the provider perspective. The direct medical costs were computed by micro-costing method (Reference price in 2014). The effectiveness was determined by the percentage differences in LDL-C reduction.

**Results:** From 250 patients with high risk CHD treated by intensive doses. Fifty-seven, 145 and 38 patients took Symbatrin, Atorvastatin and Ezetimibe respectively. The outcome determined by the percentage differences LDL-C reduction showed that Symbatrin had the lowest effectiveness compared to other groups (mean ± SD; -13.8 ± 32.3%, -28.0 ± 24.8%, and -37.8 ± 17.2%, p < 0.0001 respectively). ICER determination showed that the intensive doses treatment of Atorvastatin had the best result (ICER = 732.44 THB) whereas than of Atorvastatin-Ezetimibe combination was poorer (ICER = 732.44 THB). CONCLUSIONS: Comparison of intensive doses Symbatrin, Atorvastatin, and Ezetimibe combination treatment among high-risk CHD outpatients showed that intensive dose Atorvastatin regimen was the most cost-effective.

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**SYSTEMATIC REVIEW OF RECENT PHARMACOECONOMIC EVALUATIONS RELATED TO GENOTYPE-GUIDED THERAPY IN PATIENTS AT HIGH RISK FOR THROMBIC EVENT**

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**OBJECTIVES:** Utilizing previously published selection criteria, identify and evaluate currently published pharmacoeconomic literature that is focused on cost-effectiveness of genotype-guided medication programs for patients at high risk for a thrombotic event. The aim of this study is to provide the scientific community with a comprehensive, yet brief overview of the development of pharmacogenomic testing programs within this subset of cardiovascular disease. **METHODS:** The literature search was conducted within PubMed and Web of Science databases. The objective was to identify the following genotype-guided treatment programs: CEA, CUA, CUIR, CBA, Threshold Analysis, ICER, ICUR, EA, and INB. Outcome measures and sensitivity analysis were variable and did not always reach thresholds of significance within the overall study population. **CONCLUSIONS:** Comparative studies and comparisons were lacking. This study used inconsistent methodology. Specific study guidelines for the field of genotype-guided therapy are needed. With multiple block-buster medications reaching patent expiry, the cost-effectiveness and sensitivity analysis from previous years warrant a second evaluation. It is anticipated that genotype-guided treatment may be shifting to a cost-effective option for only the treatment-resistant, or smaller populations with a differentiated risk status. This is in contrast to selecting genotype-driven therapy as an initial option for the masses of people managed with traditional treatment. The literature search was limited to articles published from October 2014 to 2015.

**RESULTS:** Ten articles met inclusion criteria. Genotypes CYP2C19, CYP2C9, VKORC1, KIF6 were used alone and/or in combination within different patient populations (inclusion criteria: included (number of papers): Warfarin (4), Clopidigrel (including other in-class agents: 2), phenprocoumon (1), atorvastatin/parvastatin (1) and Dabigatran (2). "The following types of economic evaluations were utilized either alone or in combination: CEA, CUA, CUIR, CBA, Threshold Analysis, ICER, ICUR, EA, and INB. Outcome measures and sensitivity analysis were variable and did not always reach thresholds of significance within the overall study population. CONCLUSIONS: Comparative studies and comparisons were lacking. This study used inconsistent methodology. Specific study guidelines for the field of genotype-guided therapy are needed. With multiple block-buster medications reaching patent expiry, the cost-effectiveness and sensitivity analysis from previous years warrant a second evaluation. It is anticipated that genotype-guided treatment may be shifting to a cost-effective option for only the treatment-resistant, or smaller populations with a differentiated risk status. This is in contrast to selecting genotype-driven therapy as an initial option for the masses of people managed with traditional treatment. The literature search was limited to articles published from October 2014 to 2015.

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