Cost Effectiveness and Budget Impact of Fondaparinux for the treatment of Acute Coronary Syndrome (ACS) in Non-ST and ST Elevation Myocardial Infarction patients in the South African public health system

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Introduction

The burden of Acute Coronary Syndromes (ACS) in developing countries is growing . ACS causes nearly half of all deaths due to cardiovascular disease and significantly contributes to the economic burden on healthcare systems . ACS comprises of Unstable Angina (UA), non ST-segment elevation myocardial infarction (NSTEMI), and ST-segment elevation myocardial infarction (STEMI).

Aim

To assess the cost-effectiveness and budget impact of fondaparinux compared to enoxaparin and UFH in the treatment of NSTEMI and STEMI patients, and in addition to streptokinase for STEMI patients treated within 6 hours of admission to inform inclusion in the South African Standard Treatment Guidelines and Essential Medicine List .

Methods

The assessment involved a cost-effectiveness analysis (CEA) and a budget impact analysis (BIA). A Markov cohort model was developed that estimated the likely clinical outcomes and costs associated with using fondaparinux compared to either enoxaparin or UFH in the treatment of NSTEMI patients. In STEMI patients, fondaparinux with streptokinase compared to streptokinase monotherapy if admitted within 6 hours, and as an alternative to enoxaparin and UFH if admitted over 6 hours.

Results

Cost/QALY and budget impact estimates were generated to provide an indication of the cost effectiveness and affordability of fondaparinux for the management of ACS patients.

The results are interpreted in the context key assumptions used in the analysis relating to the contract price that can be achieved for fondaparinux, and extent to which clinical practice and outcomes for ACS reflect pivotal clinical trial outcomes.

Conclusion

The use of CEA and BIA allows critical medicine utilisation decisions to incorporate cost and affordability considerations in addition to burden of disease, clinical effectiveness and safety profile.