Economical evaluation of computed tomography angiography (CTA) versus conventional angiography (CA) to diagnose Coronary ischemia.

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Abstract

Purpose/Objective: In this study three decision analysis models are compared to evaluate the cost-effectiveness of these two imaging technologies used in coronary ischemia diagnose, the CTA (computed tomography angiography) and the conventional angiography (hemodynamics).

BACKGROUND/Introduction: Health technology assessment is becoming more and more important, especially with the economic environment affecting society nowadays. One of the areas that have been having more progression is the technology to diagnose, as imaging technics that can help diagnose and treat patient's condition. Most of the times, the decision between a procedure and another one can be affected by its costs. Never less dealing with public health the cost cannot be weighted alone, as we have other aspects that are of major importance, as the condition diagnose and resolution, and the patient commodity and quality of life. In a first approach, the cost-effectiveness is a good compromise to take a decision that can take in to account the interests of institutions, physicians and patients.

Materials and Methods: Data was obtained from a population of 69 individuals, both men and women, with ages between 35 and 88 years old. (*)The variables collected for this study were patient age, sex, imaging procedure used and its cost. Four decision analysis models were used: Decision tree, Discriminant Analysis, Probability linear Model (PLM) and Regression analysis - Logit model.

Results: The discriminant analysis shows the variable age as significant while the variable costs is not significant, and 65,2 % of the cases being obtained correctly classified. The regression MCP nevertheless, shows significance for variable cost with a positive coefficient in using the CT angiocardio. In the same way, the logistic regression shows significance for the variables costs and age and not for variable sex, being positive the coefficients of the significant variables.

Conclusion: Logistic regression shows higher capacity of explanation in choicing technology for angiocardio, with the biggest weight for the variable costs on the remaining ones of the study.