Abstract

Introduction. Diagnosis of acute appendicitis is difficult in almost 30% of patients with pain in low right quadrant. Diagnostic imaging could help to make a more accurate diagnosis. Objective. To calculate cost-effectiveness of diagnostic image tests compared with physical exam in patients with abdominal pain suspicious of appendicitis. Materials and methods. We designed a cost-effectiveness economic analysis, using a decision analysis model. Standard case selected was a patient with abdominal pain in right lower quadrant and suspicion of appendicitis. Three independent alternatives were selected (ultrasonography, abdominal tomography and physical exam with in hospital observation lower than six hours). Operative characteristics, study design and costs of interventions and outcomes were assessed. Main outcome was confirmed diagnosis of appendicitis. Point of view used was that from health maintenance organizations. Medical direct and indirect medical costs were measured. Time horizon used was three months. A one way sensitivity analysis was made. Results. For prepaid system, the most cost-effective strategy was abdominal tomography, with a cost-effectiveness ratio of US$965/diagnosed patient. For public system, the most cost-effective strategy was abdominal tomography with a cost-effectiveness ratio of US$491.8/diagnosed patient. Conclusions. Imaging diagnostic methods in cases of abdominal pain suspicious of appendicitis, are most cost-effective than physical exam to take a therapeutic decision. Tomography offers a best cost-effectiveness in prepaid system and in public health system.

Keywords
Appendicitis/diagnosis, cost-benefit analysis, tomography, ultrasonography, physical examination, decision support techniques.