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Is it worth offering a routine laparoscopic cholecystectomy in developing countries? A Thailand case study

Yot Teerawattananon*^{1,2} and Miranda Mugford²

Address: ¹International health Policy Program, Bureau of Policy and Strategy, Ministry of Public Health, Nonthaburi, Thailand and ²School of Medicine, Health Policy and Practice, University of East Anglia, Norwich, UK

Email: Yot Teerawattananon* - yot@ihpp.thaigov.net; Miranda Mugford - m.mugford@uea.ac.uk

* Corresponding author

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Abstract

Objective: The study aims to investigate whether laparoscopic cholecystectomy (LC) is a cost-effective strategy for managing gallbladder-stone disease compared to the conventional open cholecystectomy(OC) in a Thai setting.

Design and Setting: Using a societal perspective a cost-utility analysis was employed to measure programme cost and effectiveness of each management strategy. The costs borne by the hospital and patients were collected from Chiang Rai regional hospital while the clinical outcomes were summarised from a published systematic review of international and national literature. Incremental cost per Quality Adjusted Life Year (QALY) derived from a decision tree model.

Results: The results reveal that at base-case scenario the incremental cost per QALY of moving from OC to LC is 134,000 Baht under government perspective and 89,000 Baht under a societal perspective. However, the probabilities that LC outweighed OC are not greater than 95% until the ceiling ratio reaches 190,000 and 270,000 Baht per QALY using societal and government perspective respectively.

Conclusion: The economic evaluation results of management options for gallstone disease in Thailand differ from comparable previous studies conducted in developed countries which indicated that LC was a cost-saving strategy. Differences were due mainly to hospital costs of post operative inpatient care and value of lost working time. The LC option would be considered a cost-effective option for Thailand at a threshold of three times per capita gross domestic product recommended by the committee on the Millennium Development Goals.

Introduction

It is widely accepted that laparoscopic cholecystectomy (LC) is the first-line treatment for uncomplicated gallstone disease in developed countries where up to 80% of all cholecystectomy is performed through laparoscopy [1-3].

In contrast to the conventional open cholecystectomy (OC), which is performed through an approximately 15-centimeter right sub-costal incision and commonly causes a serious degree of postoperative pain and longer hospital stay, LC is associated with a shorter hospitalization, more rapid return to work and better quality of life, at least in