

Executive Summary

Research Project: Economic Evaluation of Vinorelbine for Adjuvant Therapy in Non-small Cell Lung Cancer Stage II – IIIA in Thailand

Lung cancer can be found all over the world, particularly in males, and is one of the leading causes of deaths due to cancer. Non-small cell lung cancer (NSCLC) is the most common type of lung cancer, and treating it depends on the stage of the disease. The early stages of NSCLC are difficult to detect as patients do not show any signs of symptoms; once they are diagnosed, it is usually after the disease has already spread. The best treatment option for early-stage NSCLC is surgery but the chances of recurrence and death still remain. Therefore, it is recommended that a chemotherapy drug regimen be used after surgery to increase the chances of survival. This regimen comprises a cisplatin-based treatment for early-stage patients (those in stages II and IIIA). Vinorelbine is a vinca alkaloid that can be used together with cisplatin for treating patients after surgery. However, vinorelbine is very expensive and can use more adverse side-effects than the current regimen of cisplatin and etoposide. Therefore, this study aims to conduct an economic evaluation on the cost-effectiveness of using vinorelbine as a treatment option for NSCLC patients in stages II and IIIA in Thailand.

This study analyzed the costs and utilities derived via a Markov model. The model was used to assess the disease's status once patients were treated with these two treatment options after surgery: 1) cisplatin together with epotoposide, and 2) cisplatin together with vinorelbine. Costs and quality-adjusted life years (QALYs) were analyzed from a societal perspective. The variables used in the Markov model consisted of the survival rate, disease-free rate, adverse reactions rate, costs, and health utility. These variables were used based on a review of Thai and international literature. Results were represented in terms of incremental cost-effectiveness ratios (ICERs), and sensitivity analyses were performed using a one-way sensitivity analysis and probabilistic analysis.

The results of the study showed that treatment for stage II and IIIA NSCLC patients after surgery using cisplatin and vinorelbine had an additional cost of 42,131 baht when compared to the regimen of cisplatin and etoposide. Moreover, it increased the number of QALYs by 0.23 and the ICER was at 186,871 baht/QALY. Measured against the cost-effectiveness threshold of 160,000 baht, or 1.2 times of Gross National Income (GNI), it was found that cisplatin and vinorelbine were not cost-effective. To make them cost-effective, the prices should be reduced by at least 16%. However, it was also found that there would be a 21.9% chance that using cisplatin together with vinorelbine will still have a higher cost and lower effectiveness than treatment via cisplatin and etoposide. Finally, the 5-year budget impact using the reduced drug prices amounted to 76 million baht.

In summary, the treatment of cisplatin and vinorelbine for stage II and IIIA NSCLC patients is not cost-effective.

For more information: <http://www.hitap.net/documents/170895>