Health Decision

ABSTRACT

Cost-effectiveness analysis of Sintilimab vs. Docetaxel as the second-line therapy of squamous non-small cell lung cancer in China

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Objective: There is a scarcity of sufficient pharmacoeconomic information in China regarding utilizing sintilimab as a second-line therapy for squamous non-small cell lung cancer (NSCLC). This study aimed to estimate sintilimab's cost-effectiveness compared to docetaxel for treating squamous NSCLC in China.

Methods: A comparative analysis was conducted using a partitioned survival model to contrast the cost and patients' quality-adjusted life years (QALYs) associated with sintilimab and docetaxel. Clinical data for long-term survival projection and adverse event (AE) probabilities were drawn from the phase III ORIENT-3 clinical trial. Utility data and cost were gathered from relevant literature and local public databases. Sensitivity analyses were executed to ensure our findings' reliability.

Results: Base case analysis unveiled that sintilimab led to 0.32 more QALY and $2546.34 more cost compared to docetaxel for squamous NSCLC in China. This translated to an incremental cost-effectiveness ratio (ICER) of $8115.74/QALY gained, which falls below China's per capita GDP in 2022. Our findings remained consistent and robust in both one-way deterministic and probabilistic sensitivity analyses, regardless of the willingness-to-pay setting.

Conclusion: Sintilimab as a second-line therapy for squamous NSCLC patients is cost-effective in the perspective of Chinese healthcare system.

Key words: squamous non-small cell lung cancer, cost-effectiveness, sintilimab, docetaxel, second-line therapy

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