

PD11 Cost-Effectiveness Analysis Of Inclisiran For Treating Primary Hypercholesterolemia And Mixed Dyslipidemia In Singapore

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Introduction: Inclisiran is approved in Singapore as an add-on to maximally tolerated statins for the treatment of primary hypercholesterolemia or mixed dyslipidemia. This study evaluated the cost effectiveness of inclisiran compared with standard care (SC), evolocumab, or alirocumab to treat primary hypercholesterolemia and mixed dyslipidemia.

Methods: A lifetime Markov model was used to evaluate the cost effectiveness of inclisiran as an add-on to SC (inclisiran+SC) versus SC alone, evolocumab+SC, or alirocumab+SC in four subpopulations: atherosclerotic cardiovascular disease (ASCVD), secondary prevention of heterozygous familial hypercholesterolemia (HeFH), primary prevention of HeFH, and primary prevention in patients with an elevated risk of ASCVD. Baseline cardiovascular event risks were estimated from databases and published literature from the Netherlands and the UK. Efficacy data were obtained from the ORION trials and other comparative trials. Costs were obtained from public healthcare institutions and local publications. A willingness-to-pay (WTP) threshold of SGD45,000 (USD33,280) per quality-adjusted life-year (QALY) was selected, and a one-way deterministic sensitivity analysis (DSA) was performed.

Results: Inclisiran+SC resulted in higher QALYs and higher total costs than SC alone in all four subpopulations, with incremental cost-effectiveness ratios (ICERs) ranging from SGD34,654 to SGD163,158 (USD25,630 to USD120,673) per QALY gained. At the selected WTP threshold, inclisiran+SC was cost effective, compared with SC, in patients with ASCVD and for secondary prevention of HeFH. Compared with evolocumab+SC and alirocumab+SC, inclisiran+SC achieved higher total QALYs at a lower total cost in all four subpopulations. The ICER was most sensitive to the price and efficacy of inclisiran and the rate ratios translating reductions in low-density lipoprotein cholesterol levels to the risk of cardiovascular death.

Conclusions: Inclisiran+SC resulted in greater QALYs and higher costs, compared with SC alone, and higher QALYs at lower costs, compared with evolocumab+SC and alirocumab+SC, in adults with primary hypercholesterolemia and mixed dyslipidemia. At the selected WTP threshold, inclisiran+SC was cost effective, compared with SC alone, in patients with ASCVD and for secondary prevention of HeFH. These findings can help inform future funding decisions in Singapore.

PD12 Cost Effectiveness Analysis Of Nivolumab Plus Ipilimumab For First-Line Treatment Of Advanced Non-Small Cell Lung Cancer In China

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Introduction: Non-small cell lung cancer (NSCLC) is the most prevalent malignant tumor in China. This study aimed to compare the cost effectiveness of combined nivolumab and ipilimumab with chemotherapy as a first-line treatment for advanced NSCLC. The findings will contribute to the economic evidence for making clinical and health policy decisions.

Methods: Taking a healthcare system perspective, this study used a partitioned survival analysis model to simulate the disease trajectory of advanced NSCLC during first-line treatment over a model cycle of three weeks. The simulation extended over a span of 12 years. A five percent discount was incorporated for both costs and health outcomes. Published clinical efficacy and cost data were extracted from the CheckMate 9LA study (NCT03215706) and drug pricing information was gathered from the YaoZhi website. Utility values were derived from 13 tertiary hospitals in five provinces of China. Base case and sensitivity analyses were also conducted.

Results: The combination of nivolumab and ipilimumab resulted in a lifetime cost of CNY850,068 (USD119,127) and 1.796 quality-adjusted life-years (QALYs), whereas chemotherapy incurred a lifetime cost of CNY276,313 (USD38,722) and a gain of 1.206 QALYs. The incremental cost-effectiveness ratio (ICER) for combination therapy was CNY971,955 (USD136,208) per QALY gained, which was more than three times the average gross domestic product per capita in China (CNY85,698 [USD12,010] in 2022) and indicated that the therapy was not cost effective. Probabilistic sensitivity analysis indicated that the likelihood of nivolumab plus ipilimumab being cost effective, compared with chemotherapy, was 0.02.

Conclusions: Nivolumab plus ipilimumab demonstrated enhanced health outcomes for patients with advanced NSCLC, compared with standard chemotherapy, but the ICER exceeded the acceptable threshold, suggesting that the treatment is not cost effective.