PHARMACOECONOMIC ANALYSIS OF VINFLUNINE FOR THE TREATMENT OF TRANSITIONAL CELL CARCINOMA OF THE UROTHELIAL TRACT IN PATIENTS RESISTANT TO FIRST-LINE PLATINUM-BASED REGIMENS

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BACKGROUND AND OBJECTIVES

Transitional cell carcinoma of the urothelial tract (TCCU) is one of the most common malignancy, accounting for approximately 7% of all human neoplasms. Treatment recommendations include the use of platinum-based regimens (i.e. cisplatin) as first-line chemotherapy. However, there is currently no consensus on the best option to consider for second-line treatment in patients progressing after platinum-based therapy. The present study aimed at determining the most cost-effective second-line treatment scheme for TCCU by comparing vinflunine + best supportive care (BSC) with BSC, considering the payer’s perspective.

METHODS

A cost-effectiveness and a budget impact analysis were performed. Efficacy data were derived from results of a randomized phase III study conducted in patients with advanced TCCU who experienced progression after a first-line platinum containing regimen (Bellmunt et al., 2009). The perspective adopted was that of the Russian national health system and all the treatment-related costs assumed by this payer were considered for the analyses. Results are expressed in RUB, year 2015 and converted in euro using the exchange rate of the 17th June 2015 (1 EUR = 60,11 RUB). Sensitivity analysis were conducted to evaluate the robustness of the study results.

RESULTS

Treatment-related costs

Based on the healthcare resource utilization in each group (vinflunine + BSC and BSC) and the costs of drugs and medical services covered by the national health system in Russia, the treatment-related costs structures were determined for both groups. Results are presented in the figure below.

Cost-effectiveness analysis

By comparing the costs and outcomes in the group vinflunine + BSC with those in the group BSC only, the ICER (incremental cost effectiveness ratio) was estimated to be 1 114 504 RUB (18 541 EUR) per life-year gained (LYG).

Fig.2: Cost-effectiveness analysis

ICER

WTP

Budget impact Analysis

Results from this analysis highlighted that a treatment with vinflunine + BSC resulted in additional costs estimated at 332 944 RUB (5 539 EUR) for a 3-cycle treatment course as compared to BSC alone.

In addition, this analysis also shown that shifting from BSC only to vinflunine + BSC for TCCU patients after failure of a prior platinum-containing regimen would result in additional costs of 241 384 391 RUB (4 015 711 EUR) for the Russian healthcare system.

CONCLUSION

The addition of vinflunine to BSC is cost-effective. Indeed, according to the results presented in the Fig.2, the estimated ICER does not exceed the willingness-to-pay threshold of Russia, which equals 1 629 765 RUB (27 113 EUR) in 2015. Moreover, this ICER is lower than others calculated for alternative chemotherapies used in TCCU patients resistant to first-line chemotherapy.