



Clinical and Economic Evaluation of Atezolizumab Versus Durvalumab Administration in Adult Patients with Extensive Stage Small Cell Lung Cancer

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OBJECTIVES: To evaluate cost-effectiveness of atezolizumab (ATZ) versus durvalumab (Durv) as first-line therapy in adult patients with extensive stage small cell lung cancer (ES-SCLC).

METHODS: Cost-effectiveness analysis (CEA) of carboplatin + etoposide + atezolizumab (CP/ET+ATZ) or carboplatin + etoposide + durvalumab (CP/ET+Durv) based on overall survival (OS) and progression free survival (PFS); sensitivity analysis to changes in the initial parameters of the model, budget impact analysis (BIA).

RESULTS: Direct medical costs amounted €25,672.7 for CP/ET+ATZ and €45,353.7 for CP/ET+Durv. The costs of complications treatment were almost comparable (€4,735 and €4,530 respectively), but the drugs cost for CP/ET+ATZ was 50% lower than for CP/ET+Durv, €19,886.2 difference. Taking into account the complications treatment, CP/ET+ATZ course was for €19,680.9 cheaper than CP/ET+Durv. According to CEA results the cost-effectiveness ratio (CER) for a month of a patient's life (OS) was €2,087.2 for CP/ET+ATZ, compared to €3,515.7 for CP/ET+Durv option. CER for a month of a PFS amounted €4,937.06 and €8,892.8 respectively. Thus, choosing CP/ET+ATZ strategy over CP/ET+Durv would save €1,427.9 for a OS month and €3,955.8 for a PFS month (Table).

Table. Cost-effectiveness analysis

Treatment	Drugs cost	AE's cost	Total cost	OS (month)	PFS (month)	CER (OS) per patient	CER (PFS) per patient
CP/ET+ ATZ	€ 20,937.7	€ 4,735	€ 25,672.7	12.3	5.2	€ 2,087.2	€ 4,937.06
CP/ET+ Durv	€ 40,823.7	€ 4,530	€ 45,353.7	12.9	5.1	€ 3,515.7	€ 8,892.8
Economy in the case of selecting ACP/ET+ ATZ strategy						€ 1,427.9	€ 3,955.8

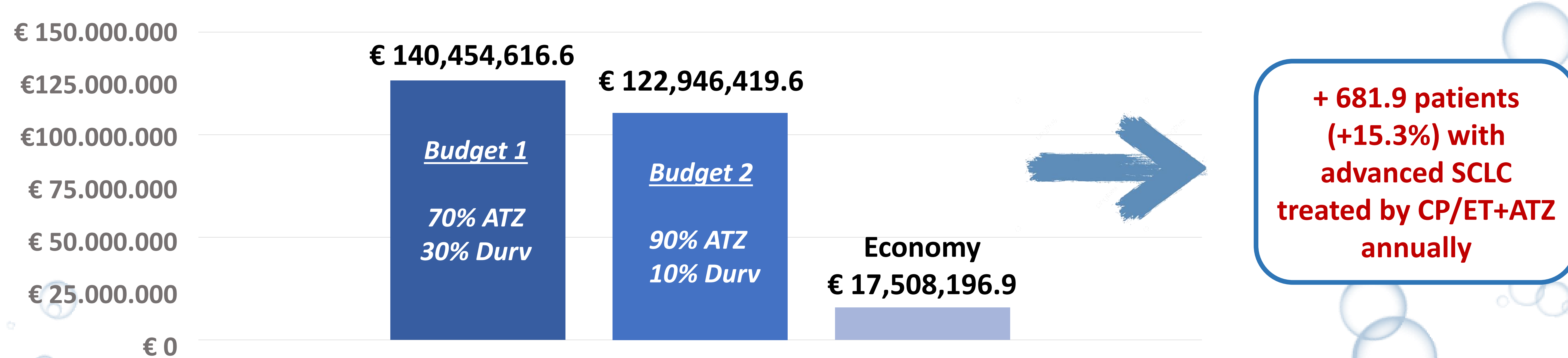


Figure. Budget-impact analysis for 1 year in the cohort of 4,448 patients (number according to Federal Register data)

The sensitivity analysis showed that the model was resistant to: an increase in the price of CP/EP+ATZ up to +68%; decrease in CP/EP+ATZ OS up to -40%; decrease in CP/EP+ATZ PFS to -44%. BIA showed that in a cohort of 4,448 patients an increase in the proportion of patients receiving CP/EP+ATZ from 70% to 90% and decrease in the proportion of patients receiving CP/EP+Durv from 30% to 10% will reduce budget costs by €17,508,196.9 per year, which will allow to treat additionally 681.9 patients with advanced SCLC per year (+15.3%) with CP/EP+ATZ combination (Figure).

CONCLUSIONS: The use of ATZ in combination with standard chemotherapy in adult patients with ES-SCLC as the first line of therapy is clinically effective and cost-effective therapy in the Russian healthcare system.