



## **TITLE: Use levosimendan versus dobutamine when inotropic support is needed in patients with severe acute decompensated chronic heart failure**

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**Objective.** Clinical and pharmacoeconomic evaluation of levosimendan and dobutamine treatment patients with severe acute decompensated chronic heart failure (ADCHF) who require inotropic support.

**Materials and methods.** Decision tree model, cost-effectiveness analysis (CEA) impact on the local budget were analyzed in terms of long-term effectiveness of levosimendan and dobutamine. **Conclusions.** Analysis of clinical data and meta-analysis of randomized clinical trials found that mortality rates with levosimendan and dobutamine in the 30-day period were 9.6% and 13.8%, RR 0.71 (95% CI 0.53-0.95) and in the 120-day period – 13.5 % and 25.2 %, RR 0.54 (95% CI 0.32–0.92), respectively. The total cost of levosimendan treatment was 34 003.02 UAH (1043,04 euro) per patient and 18 787.28 UAH (576,30 euro) when treated with dobutamine. The weighted average hospital stay was 6.4 days in case of levosimendan and 7.5 days of dobutamine treatment. Extrapolation of the data from clinical trials to the 3-year survival rate allow calculate the number of life years saved (LYS) with levosimendan - 2.64 and 2.37 with dobutamine treatment. The incremental cost-effectiveness ratio for the additional LYS of patient with severe CHF is 43,473.55 UAH (1333,54 euro), which is 6 times less than the likely threshold of willingness to pay in Ukraine.

The total cost of a cohort of patients with ADCHF in Ukraine when using scenario 1 (100% distribution of costs for dobutamine treatment) over 5 years is 268 188 351.94 UAH (8 226 632, 6 euro) when using scenario 2 (100% distribution for treatment with levosimendan) total budget costs will be of 485 393 073.09 UAH (14 889 358,07 euro)

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**Mode of Presentation:** Oral/Poster.

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### **BIOGRAPHY (upto 200 words)**

Mykhailo Aristov, MD has completed his PHD at the age of 36 years in Hospital #14, Kyiv, Ukraine. He is the head of projects in Academy of Health technology assessment of Ukraine LLS. In collaboration with colleagues he conducted over 50 HTA reports in several fields of medicine.



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