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**Introduction & Objectives:** The aim of this study was to analyse trends in testicular cancer incidence, mortality and survival in Lithuania during the period 1998-2013.

**Materials & Methods:** The study was based on all cases of testicular cancer reported to the Lithuanian Cancer Registry between 1998 and 2013. Age group-specific rates and standardized rates were calculated, using the direct method (European standard population). The joinpoint regression model was used to provide annual percentage change (APC). Five-year relative survival estimates were calculated using period analysis. Relative survival was calculated as the ratio of the observed survival of cancer patients and the expected survival of the underlying general population.

**Results:** During the study period the age-standardized incidence rate of testicular cancer increased from 1.97 to 3.45 per 100 000, with APC 2.97% (95% CI 0.9 to 5.1). Incidence rate of seminomas changed from 0.71 to 1.54 per 100 000 (APC 2.61% (95% CI -0.4 to 5.7)), as well as incidence rate of non-seminomas increased from 0.84 to 1.83 per 100 000, with APC 4.16% (95% CI 1.6 to 6.8). Relative 5-year survival ratio for the period 2004-2013 was 85.87% (95% CI 81.4 to 89.5). In our study the overall 5-year relative survival increased slightly (10.1%) from 2004-2008 to 2009-2013 (from 79.3% to 89.4%). Relative survival rates were decreasing with increasing patients age and stage of disease. Mortality rate of testicular cancer in Lithuania during this period declined from 0.78 to 0.51 per 100 000, with APC -2.91% (95% CI -5.5 to -0.3).

**Conclusions:** A moderate increase of testicular cancer incidences has been observed in Lithuania between the years 1998 and 2013, whilst mortality rate was decreasing, suggesting beneficial diagnosis, followed by effective treatment and surveillance.