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**EVOLIUCINĖ MEDICINA:
ŽMOGAUS RAIDOS PERSPEKTYVOS IR SVEIKATA
BESIKEIČIANČIOJE APLINKOJE**

**EVOLUTIONARY MEDICINE:
PERSPECTIVES ON HUMAN DEVELOPMENT AND HEALTH
CONSEQUENCES IN A CHANGING ENVIRONMENT**

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LONG-TERM PROGNOSTIC VALUE OF STRESS ECHOCARDIOGRAPHY AND EXERCISE ECG FINDINGS

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Background and Aim: Stress echocardiography (SE) identifies inducible ischaemia, whereas exercise electrocardiography (ECG) may provide additional prognostic information. We aimed to assess long-term survival according to final SE result and exercise ECG findings.

Materials and Methods: The source database comprised 28,239 consecutive SE examinations performed at a single tertiary centre, Vilnius University Hospital Santaros Klinikos, between 2002 and 2023. After prespecified exclusions, 21,063 unique patients were included in the overall cohort. For the present analysis, final SE result and exercise ECG data were available for 9,529 patients examined between 2002 and 2016, allowing long-term follow-up with administrative censoring at 2,450 days (6.7 years). Patients were classified into four groups: SE-negative/ECG-negative (n = 1,153), SE-positive/ECG-negative (n = 502), SE-negative/ECG-positive (n = 6,480), and SE-positive/ECG-positive (n = 1,394). SE data were linked with all-cause mortality records from the national mortality registry.

Results: Long-term survival differed significantly across the four groups ($p < 0.0001$). During follow-up, 183 deaths occurred in the SE-negative/ECG-negative group, 112 in the SE-positive/ECG-negative group, 1,008 in the SE-negative/ECG-positive group, and 304 in the SE-positive/ECG-positive group. However, within SE-defined groups, ECG status did not significantly separate long-term survival: SE-positive/ECG-negative vs SE-positive/ECG-positive ($p = 0.78$) and SE-negative/ECG-negative vs SE-negative/ECG-positive ($p = 0.79$).

Conclusions: Long-term survival differed across categories defined by imaging and ECG findings during stress echocardiography. However, within SE-positive and SE-negative groups, ECG findings did not provide additional prognostic separation.

Keywords: electrocardiography, mortality, prognosis, stress echocardiography, survival