

## Long-term outcomes after living liver donation: matched cohort analysis of national database

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**Lecture :** Importance: Although live liver donors are generally in healthy status, the long-term mortality of them is not reported in a large donor registry.

Objective: To evaluate the long-term mortality of Korean live liver donors using data from a national donor registry and to compare the mortality with controls.

Design: Live liver donors were drawn from a mandated national registry of 10,116 live liver donors in Korea between 2000 and 2015. Matched controls were selected from the Korean National Health Insurance System – National Sample Cohort (NHIS-NSC).

Setting: Mandated national registry-based study.

Participants: Median (range) follow-up of liver donors was 5.7 (0-15.9) years. Donors were 1:3 individually matched to controls which were drawn from the NHIS-NSC with (Control 1) and without (Control 2) contraindications for liver donation by sex and 5-year age group (donor, n=7,538; Control 1, n=28,248; Control 2, n=28,248).

Exposure: Liver donation

Main Outcome and Measure: Overall mortality

Results: Fifty-three deaths occurred after donation. Ten-year cumulative mortality of live liver donors was 0.9%. The most common cause of death was suicide (n=19). In matched control analysis, overall risk of death was significantly lower in donors than in Control 1 ( $P<0.001$ ), but higher than in Control 2 ( $P<0.001$ ). Risk of death from suicide in donors was similar with Control 1 ( $P=0.923$ ), but higher than in Control 2 ( $P=0.001$ ). Risk of death from cancer was lower in donors than in Control 1 ( $P=0.03$ ), but higher than in Control 2 ( $P=0.004$ ).

Conclusions and Relevance: Liver donors are at increased long-term mortality risk than healthy controls. Long-term careful surveillance and follow-up including psychosocial support are needed for live liver donors.