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Familial risk of venous thromboembolism: a nationwide cohort study.

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Abstract: Venous thromboembolism has genetic determinants, but population-based data on familial risks are limited. To examine the familial risk of venous thromboembolism.

We undertook a nationwide study of a cohort of patients with deep venous thrombosis or pulmonary embolism born after 1952. We used the Danish National Registry of Patients covering all Danish hospitals, for the years 1977 through 2009, to identify index cases of venous thromboembolism, and assessed the incidence among their siblings. We compared standardized incidence ratios (SIRs) of the observed and expected number of venous thromboembolism cases among siblings, using population-specific, gender-specific and age-specific incidence rates.

We identified 30,179 siblings of 19,599 cases of venous thromboembolism. The incidence among siblings was 2.2 cases per 1000 person-years, representing a relative risk of 3.08 (95% confidence interval [CI] 2.80-3.39) as compared with the general population. The risk was higher for both men (SIR 3.36, 95% CI 2.96-3.82) and women (SIR 2.81, 95% CI 2.45-3.23). The risk was similar among siblings of index cases with venous thrombosis and those of index cases with pulmonary embolism.

Venous thromboembolism has a strong familial component.

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