

Family history associated with increased risk of blood clots

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Children and siblings of those with venous thrombosis, or blood clots in the veins, appear to have more than double the risk of developing the condition than those without a family history, according to a report in the March 23 issue of *Archives of Internal Medicine*.

Venous thrombosis typically begins in leg veins, although the clot may subsequently break off and travel to the lungs. Several genetic [risk factors](#) have been identified that increase risk, according to background information in the article. Carriers of these factors have an additional elevated risk when exposed to an environmental risk factor such as surgical treatment, injury, a period of immobilization or the use of oral contraceptives. "Because universal screening is not cost-effective, research efforts are focused on selection criteria that may be used to increase the chance of finding a [genetic risk](#) factor," the authors write. "[Family history](#) is an evident candidate."

Irene D. Bezemer, M.Sc., and colleagues at Leiden University Medical Center, Leiden, the Netherlands, collected blood samples and information about family history and environmental risk factors from 1,605 patients who had experienced their first clot between 1999 and 2004. Their data was compared with that of 2,159 control participants who were the same sex and age but had not had [venous thrombosis](#).

Among patients with venous thrombosis, 505 (31.5 percent) had at least one first-degree relative with a history of the condition, compared with 373 controls (17.3 percent). A positive family history was associated

with a more than two-fold increase in the risk of venous thrombosis; the risk was increased further if the relative developed clots at a younger age and as much as quadrupled if more than one relative was affected.

Family history did not correspond well with known genetic risk factors, suggesting that there may be unknown genetic risk factors or that venous thrombosis may cluster in a family due to characteristics of the shared household, the authors note.

"Both in those with and without genetic or environmental risk factors, family history remained associated with venous thrombosis," the authors write. "The risk increased with the number of factors identified; for those with a genetic and environmental risk factor and a positive family history, the risk was about 64-fold higher than for those with no known risk factor and a negative family history."

The relative risk associated with family history was similar to that associated with a genetic risk factor. "In clinical practice, family history may be more useful for risk assessment than thrombophilia testing," or laboratory tests that identify genetic or physiological risk factors, the authors conclude.

More information: Arch Intern Med. 2009;169[6]:610-615.

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