

AB blood type strong risk factor for venous blood clots

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The non-O ABO blood type is the most important risk factor for venous thromboembolism (blood clots in veins), making up 20% of attributable risk for the condition, according to a new study in *CMAJ* (*Canadian Medical Association Journal*).

This finding has implications for genetic screening for thrombophilia, a [genetic predisposition](#) to abnormal blood clotting.

Danish researchers looked at data on 66 001 people who had been followed for 33 years from 1977 through 2010 to determine whether ABO blood type is associated with an increased risk of venous blood clots in the general population. They found that the risk increased when ABO blood type was combined with factor V Leiden R506Q or prothrombin G20210A, [genetic mutations](#) associated with an increased risk of venous thromboembolisms. This finding confirms the conclusion of other studies. The researchers also found an 11-fold increased risk of venous thromboembolism for people with the prothrombin G20210A mutation in double dose, something other smaller trials did not pick up.

"We found an additive effect of ABO blood type on risk of venous thromboembolism when combined with factor V Leiden R506Q and prothrombin G20210A; ABO blood type was the most important risk factor for venous thromboembolism in the general population.," writes Dr. Børge G. Nordestgaard, Herlev Hospital, Copenhagen University Hospital with coauthors. "This suggests that ABO blood type should be included in genetic screening for thrombophilia."

The study was large, followed participants over a long period and follow up was 100% complete for participants. Although the study cohort was genetically homogenous compared with populations with [ethnic diversity](#), the ABO blood type, factor V Leiden R506Q and prothrombin G20210A are found in all ethnicities.

More information: www.cmaj.ca/lookup/doi/10.1503/cmaj.121636

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