An Italian Registry on Risk Factors for Venous Thromboembolism in Blood Donors Clinicaltrials. Gov: Nct03282747 [†]

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Abstract: A registry-based study to evaluate prevalence of common risk factors for vein thrombosis among healthy subjects.

Keywords: vein thrombosis; risk; blood donors

1. Background

The impact of several risk factors in the occurrence of venous thrombosis with/without pulmonary embolism, collectively called venous thromboembolism (VTE), is well known in patients who previously suffered from VTE [1]. Little is known about their impact in healthy population.

2. Materials and Methods

We evaluated the incidence of risk factors for VTE in a population of Italian blood donors: BMI, blood group, previous transfusions, plaster cast, previous surgery, gross veins, history of venous thrombosis and/or use of anticoagulation drugs. The study started in 1 June 2017. Information were collected by means of a self-administered questionnaire. All analyses were performed using SPSS version 11.0. Odds ratios (ORs) for risk factors for VTE were calculated. Proportions were compared using Fisher exact test or c2-test where appropriate. Adjusted OR and 95% confidence interval (CI)

were calculated using logistic regression models that controlled for potential confounding variables such as age, BMI, blood group, surgery, plaster cast, immobilization, transfusion.

3. Results

Until November 20th, 5506 questionnaires were collected. 4120 (75.3%) men and 1354 (24.7%) women were consecutively enrolled. Mean age (+SD) was 42.7 + 12.3 yrs in men, 38.4 + 13.4 yrs in women ($p < 0.001$), BMI was 26.05 + 4.14 in men and 24.5 + 4.93 in women ($p < 0.001$). Group 0 was observed in 48% and non-0 in 52%. With regards to smoking habits, no significant difference was observed between men and women with the exception for ex-smokers (143/1354 women vs. 786/4120 men, $p < 0.001$). A history of vein thrombosis (likely superficial thromboses) was referred by 36 (0.7%) subjects, gross veins by 320/5442 (5.9%), previous surgery by 1896/5478 (34.6%). Previous transfusion was reported by 73/5019 (1.5%) individuals and 236/5268 (4.5%) had used at least once anticoagulation drugs. At univariate analysis, gross veins, bed rest/plaster cast, surgery and transfusions were associated with vein thrombosis. At logistic regression (see Table 1), a significantly and independent association was found between VTE and gross veins (OR: 15.8, 95%CI 7.7–32.6), plaster cast/bed rest (OR: 2.3, 95% CI 1.0–5.3) and transfusion (OR: 5.1, 95% CI 1.3–19.5).

4. Discussion

To the best of our knowledge, this is the first study in a large series of blood donors aimed at investigating the distribution of risk factors for VTE. We find that gross veins, plaster cast/bed rest and previous transfusions are independent risk factors for VTE. Further studies that can confirm and extend these findings are warranted.

Bullet points:

- Assessment of risk factors for VTE is mostly limited to VTE-diagnosed subjects
- Information on risk factors for VTE in healthy subjects are lacking
- Transfusions could confer the risk for VTE

Table 1. Logistic regression.

Variables	OR	95% CI
Gross veins	15.8	7.7–32.6
Plaster cast/Bed rest	2.3	1.0–5.3
Transfusions	5.1	1.3–19.5

Conflicts of Interest: The authors declare no conflict of interest.

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