

Tromboembolismo venoso: aspetti clinici e diagnostici

LONG-TERM RISK OF VENOUS THROMBOEMBOLISM IN AUTOIMMUNE HEMOLYTIC ANEMIA: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background and aims. Autoimmune hemolytic anemia (AIHA) is increasingly recognized as a systemic prothrombotic condition; however, the long-term magnitude of venous thromboembolism (VTE) risk across diverse epidemiologic settings remains insufficiently defined. Although individual investigations have reported elevated rates of deep vein thrombosis and pulmonary embolism in AIHA, an integrated assessment quantifying both absolute and relative risk has been lacking. The aim of this study was to systematically evaluate the long-term risk of VTE in adults with AIHA compared with non-AIHA populations and to derive clinically relevant absolute risk estimates that may inform thrombosis prevention and risk stratification strategies.

Methods. A systematic search of MEDLINE and Embase identified observational cohort, case-control, and registry studies enrolling adults (≥18 years) with warm AIHA or cold agglutinin disease that reported VTE outcomes relative to comparator groups. Two independent reviewers performed study selection, data extraction, and quality appraisal according to PRISMA and Cochrane guidance. Random-effects models generated pooled risk ratios (RRs), cumulative incidence estimates, and absolute risk measures including attributable risk, attributable fraction among the exposed (AFE), population attributable fraction, and number needed to harm (NNH). Heterogeneity, sensitivity analyses, and publication bias were comprehensively assessed.

Results. Seven studies comprising 10,484,989 adults (8,652 with AIHA) and up to 44 years of follow-up were included. AIHA was associated with a 2.9-fold increased VTE risk versus controls (RR 2.9; 95% CI 1.9–4.4; P < .0001). The pooled cumulative incidence of VTE was 6.0% (95% CI 4.5–7.5%) in AIHA and 2.9% (95% CI 1.3–4.4%) in non-AIHA groups. The attributable risk was 3.6% (95% CI 2.7–4.6%), and the AFE was 65% (95% CI 58–72%), indicating that nearly two-thirds of VTE events among exposed individuals are directly attributable to AIHA. The NNH was 27 (95% CI 20–34). Results were consistent across sensitivity analyses, with no significant publication bias.

Conclusions. This comprehensive meta-analysis establishes AIHA as a clinically significant long-term prothrombotic disorder, conferring markedly increased absolute and relative VTE risks. These findings support incorporating routine VTE risk assessment, intensified monitoring during hemolytic activity, and consideration of targeted thromboprophylaxis into contemporary AIHA management. Future guidelines should explicitly address VTE prevention in autoimmune hemolysis.