MAYO CLINIC

MBL/CLL Confers a 6x Increased Risk for VTE

Incidence of Venous Thromboembolism and Patterns of Anticoagulation in Patients with Monoclonal B-Cell Lymphocytosis and Chronic Lymphocytic Leukemia: A Population-Based Study

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PURPOSE

Though malignancy is a known risk factor for VTE, little data exists specific to VTE in MBL/CLL – prior studies have typically lumped CLL in with other hematologic malignancies. No prior studies have addressed VTE risk in MBL. We therefore aimed to better characterize risk for VTE in MBL/CLL compared to the general population.

METHODS

We identified all patients diagnosed with MBL/CLL with no prior history of VTE between 1998-2021 within 27 counties surrounding Rochester, MN. Patient demographics, VTE incidence, and anticoagulation data were identified using the Mayo Clinic CLL Database and the EHR.. Risk of VTE was estimated using Cox proportional hazards model; unadjusted cumulative risk of VTE was estimated using Kaplan-Meier methods. Rate of incident VTE among age- and sex-matched population in Olmsted County from 2001 – 2015 was pulled from the Rochester Epidemiology Project for comparison.

RESULTS

- 904 patients with newly diagnosed MBL/CLL (293 MBL; 611 CLL) and no prior history of VTE were identified
- 70 (8%) of 904 patients experienced VTE during the study period (43 DVT, 24 PE, 4 DVT/PE at VTE1)
    - Median follow-up was 6 years (range, 1 day – 23 years)
    - 47 (68%) of patients had identifiable provoking factors apart from MBL/CLL diagnosis
- Risk of VTE was similar in CLL compared to MBL
    - HR (95% CI) = 0.90 (0.49 – 1.65)
- 5-yr and 10-yr cumulative risk of VTE was 4.9% and 11.5%

RESULTS

- 63 (90%) of the 70 patients who experienced VTE were anticoagulated
    - 7 were not, due to hospice transition (n=4), bleeding (n=2), and thrombocytopenia (n=1)
    - 47 patients received time-limited anticoagulation (median 3 months)
        - 16 patients were placed on indefinite anticoagulation at VTE1
- ~20% of pts who received time-limited anticoagulation experienced recurrent VTE
    - No patients placed on indefinite anticoagulation experienced recurrent VTE
- Overall VTE incidence rate in MBL/CLL was ~6x higher compared to the general population.

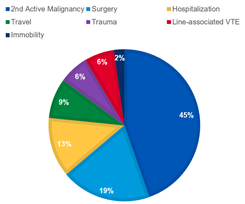

Figure 1. Distribution of other identifiable provoking factors at VTE1

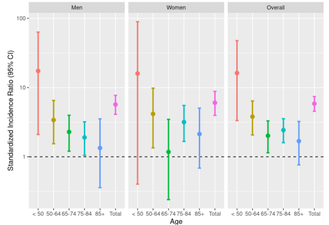

Figure 2. Standardized Incidence Ratio (SIR) of VTE incidence in patients with MBL/CLL compared to the age- and sex-matched general population.

CONCLUSIONS AND IMPLICATIONS

VTE is perhaps a more common complication of MBL/CLL than previously realized, occurring in ~1 of 12 patients. MBL/CLL confers a 6x increased risk of VTE compared to the general population.Increased vigilance and patient education surrounding VTE in patients with MBL/CLL is warranted, particularly in those with other provoking factors such as active second malignancy, hospitalization, surgery, or prolonged travel. Warfarin is contraindicated with BTKi therapy; DOACs are preferred. In light of this data, consideration for indefinite anticoagulation in patients with MBL/CLL at time of VTE1 may be beneficial.