

Implementing Extended-Dose Apixaban for VTE Prevention in Cancer Patients: A Clinic-Based Educational Initiative

Ofek Raviv, MD
Department of Internal Medicine, Cleveland Clinic Florida, Weston, FL

Learning Objectives

- Identify high-risk cancer patients eligible for VTE prophylaxis using the Khorana score.
- Explain the clinical significance of the API-CAT trial and its implications for extended anticoagulation.
- Apply a multidisciplinary educational approach to integrate guideline-based VTE prevention into clinic workflows.

Introduction

Cancer-associated thrombosis (CAT) is a leading cause of preventable morbidity and mortality in oncology, accounting for 15-25% of all VTE events. Cancer patients face a 4-7-fold higher VTE risk than the general population. While LMWH was once standard, recent evidence now supports DOACs as the preferred therapy for many patients.¹⁻³ At Cleveland Clinic Florida, the Cancer-Medicine Continuity Clinic (CMCC) was established as a resident-led initiative within Internal Medicine to bridge oncology and primary care. It provides a structured platform to implement current thromboprophylaxis protocols in daily practice and serves as a center for evidence-based patient education and anticoagulation management in cancer care.

API-CAT article
distribution to
clinic providers

Grand Rounds
- Hospital
Wide

Journal
Club
- GME

Clinical Significance

This initiative aims to rapidly implement practice-changing data into current patient care. Our department is implementing a targeted educational program within the IM service line at Cleveland Clinic Florida. The program's primary goal is to standardize VTE risk stratification and prophylaxis for cancer patients. Educational outreach is planned in three phases: (1) formal article distribution and summary to all outpatient IM attendings and residents; (2) a hospital-wide Grand Rounds in the fall semester, introducing the new API-CAT trial data; and (3) an IM medical student and resident-level Journal Club on to follow in the spring reviewing key findings from the trial. Clinical tools including the Khorana and HAS-BLED scores will be discussed to stratify thrombotic and bleeding risks, respectively. The founder (and article author) of CMCC will track appropriate new prophylaxis started by clinic physicians.

Justification

The API-CAT trial (2025) demonstrated that apixaban 2.5 mg BID is non-inferior to 5 mg BID for extended secondary VTE prevention in cancer patients who have completed six months of anticoagulation, with a significantly lower incidence of clinically relevant bleeding (12.1% vs. 15.6%, $P=0.03$).⁴ These findings support low-dose apixaban for long-term use in appropriate patients, especially those with ongoing cancer-related risk but a concern for bleeding. Furthermore, DOACs improve adherence compared to LMWH and maintain favorable safety and efficacy in ambulatory settings.⁵⁻⁷

Adaptability

This education model is broadly adaptable. Standardized clinical scoring tools and common academic platforms (e.g., grand rounds, journal clubs) can be leveraged across institutions to align clinician behavior with updated evidence.⁸⁻¹⁰

Significance

By supporting clinicians with structured risk assessments and practice-changing data, this initiative enhances VTE prevention and oncology care delivery. This approach illustrates how evidence can be rapidly implemented into practice, reinforcing up-to-date patient care and safety, while promoting a culture of continuous learning and adaptability.

References

Elshoury A, Schaefer JK, Lim MY, Skalla DP, Streiff MB. Update on Guidelines for the Prevention of Cancer-Associated Thrombosis. *J Natl Compr Canc Netw*. 2022;20(13). doi:10.6004/jnccn.2021.7108.

Lyman GH, Carrier M, Ay C, et al. American Society of Hematology 2021 Guidelines for Management of Venous Thromboembolism: Prevention and Treatment in Patients With Cancer. *Blood Adv*. 2021;5(4):927-974. doi:10.1182/bloodadvances.2020003442.

Attard LM, Gatt A, Bertolotti L, Delluc A, Riva N. Direct Oral Anticoagulants for the Prevention and Acute Treatment of Cancer-Associated Thrombosis. *Vasc Health Risk Manag*. 2022;18:793-807. doi:10.2147/VHRM.S271411.

Mahé I, Carrier M, Mayeur D, et al. Extended Reduced-Dose Apixaban for Cancer-Associated Venous Thromboembolism. *N Engl J Med*. 2025. doi:10.1056/NEJMoa2416112. doi:10.1016/j.thromres.2018.02.144.

Shore S, et al. Adherence to DOACs vs. LMWH in Cancer-Associated Thrombosis: A Multicenter Study. *J Thromb Haemost*. 2020;18(12):3202-3210. doi:10.1001/jamcardio.2022.1292.

Bikdeli B, Zahedi Tajrishi F, Sadeghipour P, et al. Efficacy and Safety Considerations With Dose-Reduced Direct Oral Anticoagulants: A Review. *JAMA Cardiol*. 2022;7(7):747-759. doi:10.1001/jamcardio.2022.1292.

Li A, Kuderer NM, Garcia DA, et al. Direct Oral Anticoagulant for the Prevention of Thrombosis in Ambulatory Patients With Cancer: A Systematic Review and Meta-Analysis. *J Thromb Haemost*. 2019;17(12):2141-2151. doi:10.1111/jth.14613.

Bosch FTM, Mulder FI, Kamphuisen PW, et al. Primary Thromboprophylaxis in Ambulatory Cancer Patients With a High Khorana Score: A Systematic Review and Meta-Analysis. *Blood Adv*. 2020;4(20):5215-5225. doi:10.1182/bloodadvances.2020003115.

Guman NAM, van Geffen RJ, Mulder FI, et al. Evaluation of the Khorana, PROTECHT, and 5-SNP Scores for Prediction of Venous Thromboembolism in Patients With Cancer. *J Thromb Haemost*. 2021;19(12):2974-2983. doi:10.1111/jth.15503.

van Es N, Ventresca M, Di Nisio M, et al. The Khorana Score for Prediction of Venous Thromboembolism in Cancer Patients: An Individual Patient Data Meta-Analysis. *J Thromb Haemost*. 2020;18(8):1940-1951. doi:10.1111/jth.14824.