Venous Thromboembolism Risk, Prevention and Treatment in Cancer Patients

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Speaker:

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Learning Objectives

- Identify thrombosis and bleeding risks in cancer patients
- Risk stratify patients for thromboprophylaxis
- Use guidelines for management of treatment and prevention of thrombosis
- Identify appropriate agents for extended thromboprophylaxis

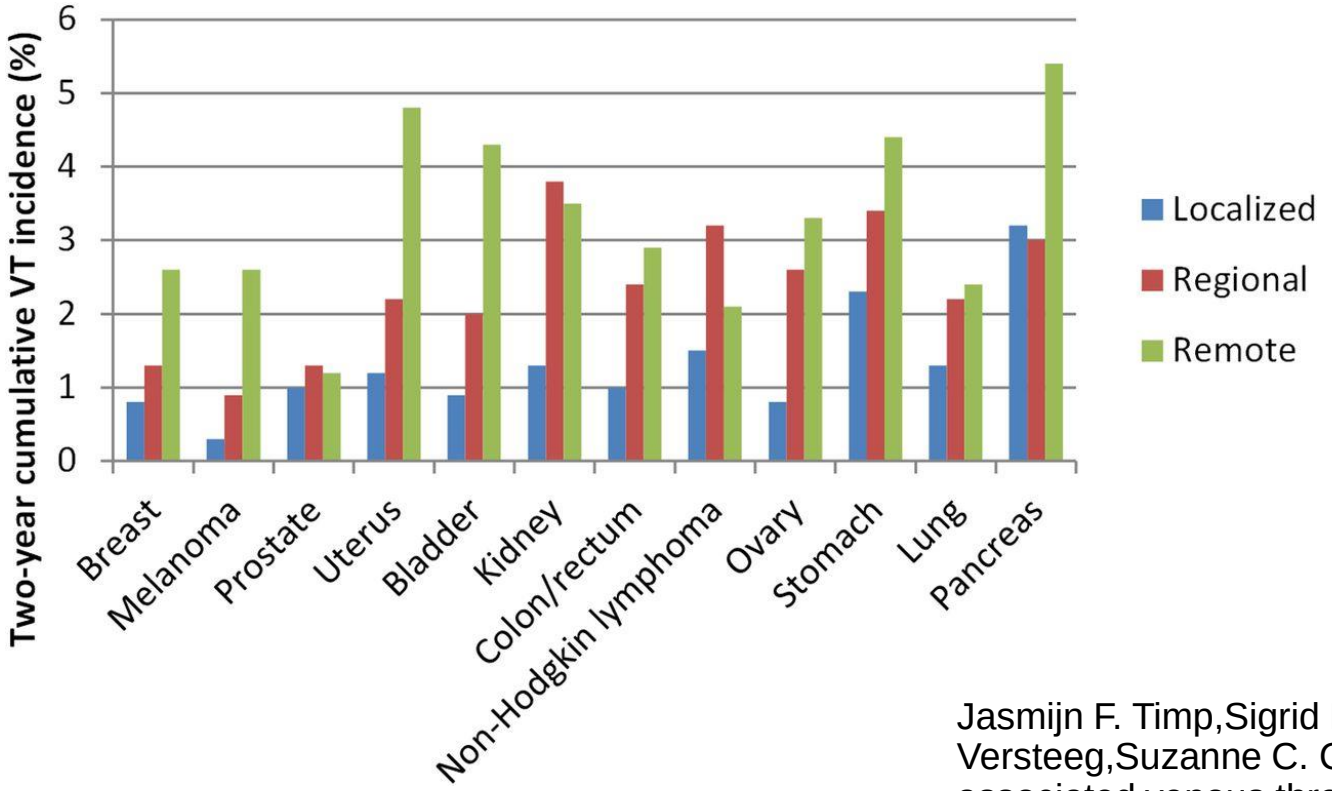
The Problem(s):

- Cancer patients face a 4-7 times higher risk of VTE compared to controls
- Cancer patients *not on anticoagulation* face a 3-4 times higher risk of bleeding compared to controls
  - 10% of all patients will have at least one bleeding episode
  - 30% of hematologic malignancies will have at least one bleeding episode
- VTE, along with infection, is the leading cause of death of cancer patients, other than cancer itself

Calculating Risk:

- *For VTE risk:*
  - Khorana score
  - Khorana calculator
    - https://www.mdcalc.com/calc/3315/khorana-risk-score-venous-thromboembolism-cancer-patients
  - Type of malignancy
- *For Bleeding Risk:*
  - HAS-BLED calculator (used in cardiology):
    - https://www.mdcalc.com/calc/807/has-bled-score-major-bleeding-risk
  - *Specific risks for cancer patients:*
  - Metastatic disease
  - Gastrointestinal or genitourinary primary
  - CKD ≥ Stage III
  - Platelets ≤ 100,000
  - EGOG = 2

Malignancy-specific risks:



Jasmijn F. Timp,Sigrid K. Braekkan,Henri H. Versteeg,Suzanne C. Cannegieter, Epidemiology of cancer-associated venous thrombosis, Blood, 2013, Figure 4

How long to treat?

Minimum therapy:

- 6 months
- Consider dose reduction after 6 months for extended treatment or secondary thromboprophylaxis if using a DOAC

Extended therapy:

- Active disease
- Active treatment
- Presence of foreign bodies (i.e., ports, venous catheters, central lines)
- Patient-specific factors:
  - Obesity
  - Mobility
  - Other typical VTE risk factors (i.e., thrombophilias)
  - Non-cancer medications with thrombotic risk (i.e., testosterone, prednisone)

Thromboprophylaxis for Prevention of VTE:

ASCO 2023 Guidelines:

RECOMMENDATIONS Apixaban and rivaroxaban were added as options for extended pharmacologic thromboprophylaxis after cancer surgery, with a weak strength of recommendation. Apixaban was also added as an option for the treatment of VTE, with high quality of evidence and a strong recommendation.

ASH 2021 Guidelines:

Conclusions: Strong recommendations include not using thromboprophylaxis in ambulatory patients receiving cancer chemotherapy at low risk of VTE and to use low-molecular-weight heparin (LMWH) for initial treatment of VTE in patients with cancer. Conditional recommendations include using thromboprophylaxis in hospitalized medical patients with cancer, LMWH or fondaparinux for surgical patients with cancer, LMWH or direct oral anticoagulants (DOAC) in ambulatory patients with cancer receiving systemic therapy at high risk of VTE and LMWH or DOAC for initial treatment of VTE, DOAC for the short-term treatment of VTE, and LMWH or DOAC for the long-term treatment of VTE in patients with cancer.

When to stop anticoagulation?

In remission:

- Consider patient's baseline risks without cancer
- Evaluate extended therapy vs no therapy based on baseline risk

In hospice:

- Consider the impact of a VTE on QOL in the final stages

Guidelines:

ASCO:

Venous Thromboembolism Prophylaxis and Treatment in Patients With Cancer: ASCO Guideline Update Nigel S. Key, et al. *J Clin Oncol* 41:3063-3071.

www.asco.org/supportive-care-guidelines

ASH:

American Society of Hematology 2021 guidelines for management of venous thromboembolism: prevention and treatment in patients with cancer. Gary H. Lyman, et al. *Blood Advances*, 2021: 5: 927-974.

www.hematology.org/education/clinicians/guidelines-and-quality-care/clinical-practice-guidelines/venous-thromboembolism-guidelines/cancer

Final words……

Guidelines are just that……

Treat each patient holistically and individually, balancing risks and benefits

Let the patient make the final decision

References:

Anticoagulant Therapy for Cancer-Associated Venous Thromboembolism after Cancer Remission Nobuhiro Hara, et al. *Ann Vasc Dis.*2021: 14, 146–152.

Bleeding in cancer patients and its treatment: a review. Candice Johnstone , Shayna E. Rich. *Ann Palliat Med* 2018;7(2):265-273

Bleeding incidence and risk factors among cancer patients treated with anticoagulation. Dana E. Angelini et al. *Am J Hematol.* 2019;94:780–785.

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Pulmonary Embolism in the Cancer Associated Thrombosis Landscape. Géraldine Poenou, et al. J Clin Med. 2022; 11: 5650.

Thank you!

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