

2016 CHEST ANTITHROMBOTIC THERAPY FOR VTE DISEASE:

KEY GUIDELINE UPDATES AND PATIENT CASES

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OBJECTIVES

- State the most recent changes to the 2016 CHEST VTE (venous thromboembolism) guidelines regarding anticoagulation therapy
- Contrast the 2016 CHEST VTE guideline updates regarding anticoagulation with the 2012 guidelines
- Apply the updated guidelines to patient cases to design appropriate, individualized anticoagulation therapy



ANTICOAGULANTS

FOR VTE TREATMENT



UNFRACTIONATED HEPARIN



- Heparin infusion (inpatient only)
- MOA
 - Prevents formation of thrombin by potentiating the action of antithrombin III (ATIII)

LOW MOLECULAR WEIGHT HEPARINS (LMWH)

- Lovenox (enoxaparin)
- Inpatient or outpatient treatment
- MOA
 - Similar to heparin, but with higher anti-factor Xa activity than heparin (more thrombin activity)

FACTOR XA INHIBITOR

- Arixtra (fondaparinux)
- MOA
 - Synthetic, indirect factor Xa inhibition via ATIII to prevent thrombin formation

VITAMIN K ANTAGONIST (VKA)

- Coumadin or Jantoven (warfarin)
- MOA
 - Depletes vitamin K reserves and thereby reduces formation of clotting factors II, VII, IX, X, and proteins C & S

DIRECT ORAL ANTICOAGULANTS (DOAC)

DIRECT THROMBIN INHIBITOR

- Pradaxa (dabigatran)
- MOA
 - Prodrug
 - Inhibits free and fibrin-bound thrombin

FACTOR XA INHIBITORS

- Xarelto (rivaroxaban)
- Eliquis (apixaban)
- Savaysa (edoxaban)
- MOA
 - Inhibits platelet activation and fibrin clot formation via direct activity on Xa

2016 CHEST GUIDELINE UPDATES

ANTITHROMBOTIC THERAPY FOR VTE

LONG-TERM VS. EXTENDED THERAPY

Long-term
therapy

- First 3 months of therapy

Extended
therapy

- No scheduled stop date for therapy

2016 CHOICE OF “LONG-TERM” ANTICOAGULATION

Proximal DVT or PE

Long-term therapy

DOAC > VKA > LMWH

Grade 2B; Grade 2C

2012 CHOICE OF “LONG-TERM” ANTICOAGULATION

Proximal DVT or PE

Long-term therapy

VKA > LMWH > Pradaxa or Xarelto

Grade 2C

CHOICE OF “EXTENDED” ANTICOAGULATION

DVT of leg or PE



Extended Therapy



Continue same anticoagulant **AFTER 3 months**

Grade 2C

CHOICE OF “EXTENDED” ANTICOAGULATION

Proximal DVT of leg or PE (unprovoked)



Extended Therapy without anticoagulants



Aspirin > No Aspirin

Grade 2B

MALIGNANCY

Active Cancer + DVT of leg or PE

Long term therapy (first 3 months)

LMWH > VKA or DOAC

Grade 2C

2012 MALIGNANCY

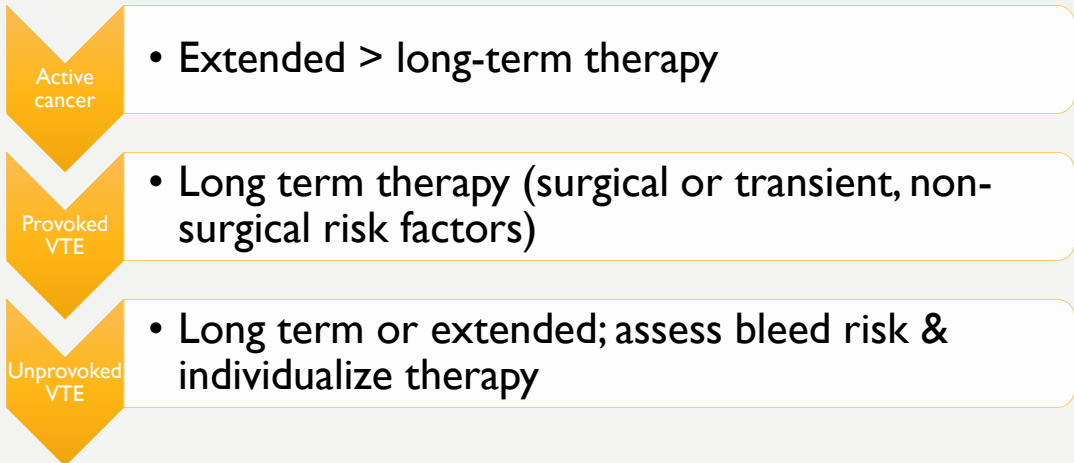
Active Cancer + DVT of leg or PE

Long term therapy (first 3 months)

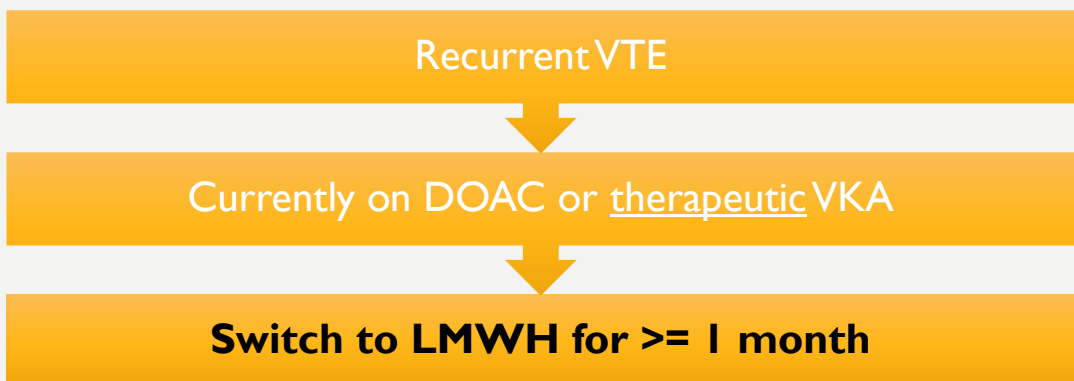
LMWH > VKA > Pradaxa or Xarelto

Grade 2B (PE), Grade 2C

DURATION OF ANTICOAGULATION PEARLS



RECURRENT VTE



Grade 2C

RECURRENT VTE

Recurrent VTE



Currently on LMWH with compliance



Increase LMWH dose by $\frac{1}{4}$ to $\frac{1}{3}$

Grade 2C

PATIENT CASES

TEST YOUR KNOWLEDGE!

CHOOSE THE BEST TREATMENT OPTION

- A. Lovenox 1 mg/kg BID for >3 months**
- B. Pradaxa 150 mg BID for >3 months
- C. Lovenox 1 mg/kg BID x 3 months
- D. Warfarin, goal INR 2-3, x 3 months

PATIENT CASE #1

73 yo M

Newly diagnosed PE

PMH: bladder cancer, GERD, finished 1st cycle of chemotherapy 1 month ago, anemia

CrCl 60 mL/min

- A. Xarelto 15 mg BID x 15 days, then 20 mg daily x 3 months
- B. Warfarin, goal INR 2-3, for >3 months
- C. Eliquis 10 mg BID x 7 days, then 5 mg BID for >3 months**
- D. Lovenox 1 mg/kg BID x 3 months

PATIENT CASE #2

65 yo M

Newly diagnosed LLE DVT, unprovoked & painful, per patient report

PMH: obstructive sleep apnea, HTN, no HX of VTE, obesity

CrCl 85 mL/min

RANK the following in order of best option for VTE prophylaxis:

- A. 4- No treatment is appropriate
- B. 3- Aspirin daily
- C. 1- Continue Eliquis
- D. 2- Switch to warfarin, goal INR 2-3

PATIENT CASE #3

Same patient as case #2

Patient wants to stop Eliquis after 3 months and the hospitalist asks for your recommendation on VTE prophylaxis

A. Pradaxa 150 mg BID (after 5-10 days of parenteral therapy) x 3 months

- B. Lovenox 1 mg/kg BID x 3 months
- C. Lovenox 1 mg/kg BID for >3 months
- D. Warfarin, goal INR 2-3, x 3 months

PATIENT CASE #4

80 yo F

Newly diagnosed RLE proximal DVT

PMH:TKR 1 month ago, osteoarthritis, HTN, hyperlipidemia, hypothyroidism

CrCl 49 mL/min

- A. Continue warfarin, INR goal increase to 2.5-3.5, x 1 month
- B. Change to Xarelto for ≥ 1 month
- C. Change to Xarelto for extended therapy
- D. Change to Lovenox 1 mg/kg BID for ≥ 1 month**

PATIENT CASE #5

55 yo F

Presents to ED today and CT shows new PE

PMH: PE 9 months ago treated with warfarin extended therapy, gout, HTN

CrCl 90 mL/min

INR 2.6

- A. Increase Lovenox dose by $\frac{1}{2}$
- B. Increase Lovenox dose by $\frac{1}{3}$**
- C. Change to Xarelto
- D. Change to warfarin, goal INR 2-3

PATIENT CASE #6

55 yo F

Presents to ED today and CT shows new PE

PMH: PE 9 months ago treated with Lovenox extended therapy, gout, HTN

CrCl 90 mL/min

Lovenox compliance confirmed by patient interview & by calling patient's pharmacy

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Q/A

A light gray background with a dark brown wavy line on the left side and a vertical yellow bar on the right side. The text "REFERENCES" is written in dark brown, bold, sans-serif font at the top left.

REFERENCES

- Antithrombotic Therapy for VTE Disease. CHEST 2012; 141(2)(Supl):e419S–e494S.
- Antithrombotic Therapy for VTE Disease, CHEST Guideline and Expert Panel Report. CHEST 2016; 149(2):315-352.
- Lexicomp. Version 2.3.5. 2016.