Warfarin Therapy Initiation, Patient Education, and Management

PHMPRAC 556
Pharmacotherapy II
Venous Thromboembolism Lab Tutorial

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Objectives

- Recognize important patient-specific factors that may impact warfarin therapy
- Formulate a plan for warfarin initiation
- Using lay terms, educate patients on warfarin therapy
- Recommend appropriate follow-up and monitoring for patients taking warfarin
- Recognize situations that may require warfarin dose adjustments

Patient Interview

- Important information to be gathered for initial assessment
  - Medication allergies or serious adverse events
  - Current medications (Rx, OTC, and herbals)
  - Medical history
    - Renal insufficiency
    - Anemia
    - Liver disease
    - Past bleeding events
    - CHF
    - Past thromboembolic events
    - History of falls
    - Cancer

Patient Interview

- Important information to be gathered for initial assessment (cont'd)
  - Family history
  - Social history
    - Occupation/recreational habits
    - Alcohol consumption
    - Tobacco use
    - Current diet
  - Patient baseline knowledge/attitude about warfarin
  - Patient self-management skills (e.g. takes own meds)
  - Family support, if needed
  - Patient reliability
  - Access to lab and telephone

Initiating Warfarin Therapy

- Also Consider:
  - Indication for use
  - Planned duration of therapy
  - Target INR
  - Baseline labs
    - INR, Hgb/Hct, Platelets, liver function tests
    - serum creatinine and weight (if initiating LMWH)

Warfarin Starting Doses and Follow-up Intervals

- Loading doses (>10mg) not recommended
- Usual starting dose: ~5mg daily
- Consider < 5mg for: elderly, pts who are debilitated, malnourished, have CHF or liver disease, had a recent surgery, drug interactions (e.g. amiodarone)
- Adjust dose based on International Normalized Ratio (INR) response
- Follow-Up Labs/Assessment:
  - INR
    - Every 2-3 days until stable
    - Then q1 week, q2 weeks, q4 weeks
    - Aim for middle of INR range (e.g. 2.5 for INR goal of 2.0 – 3.0)
  - CBC: at least every 6 months

Patient Education

- Baseline knowledge, beliefs, and concerns
- How does warfarin work?
  - Warfarin blocks a part of the body's clotting system that relies on vitamin K
  - Taking warfarin will make your blood clot slower and prevent *abnormal* blood clots from forming
  - Warfarin does not stop your blood from clotting completely

Patient Education

- Description of tablet

- Dosage regimen instructions / changing doses
- What to do if a dose is missed
- What does INR mean?

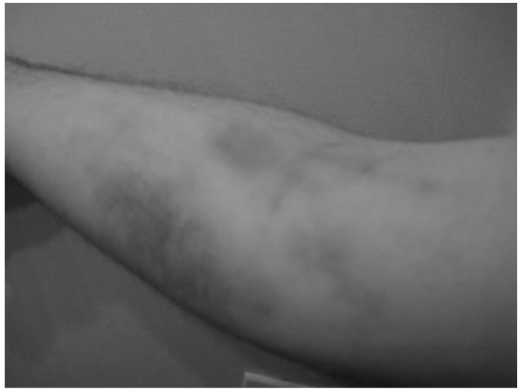
- Tell all health care practitioners involved
- Importance of keeping appointments

Patient Education

- What Are Symptoms of Blood Clots?
  - Deep vein thrombosis (DVT)
    - Pain, tenderness, or sudden swelling in one leg or arm
    - Unusual discoloration of your leg or arm
    - The area may be warm to the touch
  - Pulmonary embolism (PE)
    - Difficulty breathing or shortness of breath, chest pain, coughing up blood

Patient Education

- Common side effects:
  - Increased bruising
  - Bleeding gums (mild)
  - Mild nosebleeds
  - Increased bleeding from nicks or cuts



- Rare side effects:
  - Vomiting blood
  - Coughing up blood
  - Dark brown/red urine
  - Black or bloody stools
  - Any bleeding that lasts longer than 20-30 minutes or is intense

Patient Education

- Things that can affect the INR or risk of bleeding
  - New medications or changes in current medications
  - Illness can affect INR (diarrhea, vomiting, not eating)
  - Fad diets
  - Intermittent NSAIDS
  - Alcohol in excess
  - Certain vitamins or nutritional supplements

Patient Education

- Safety
  - Warnings about trauma, falls, cuts and what to do
  - Keep away from children or pets
  - I.D. card and/or Med-alert tag
  - Emergency phone #
  - Issues concerning pregnancy

Monitoring

- Assess adherence (to warfarin and specific other medications that interfere)
- Assess tolerability / side effects
- Assess improving or worsening disease symptoms
- Inquire about medication changes
- Inquire about lifestyle changes

Monitoring

- Possible Reasons for Subtherapeutic INR
  - Patient non-adherence or confusion
  - Ingesting <u>large amounts</u> of Vitamin K containing foods or vitamins
  - Using wrong warfarin tablet strength
  - Ran out of medication
  - Drug interaction
  - Too soon to see effect from last dosage increase

Monitoring

- Possible Reasons for Supratherapeutic INR
  - Patient nonadherence or confusion
  - Using wrong warfarin tablet strength
  - Drug / diet / herbal interaction
  - Excessive alcohol intake
  - Decompensation of cardiac or hepatic disease
  - Poor nutritional intake
  - Acute illness

Monitoring

- INR Assessment
  - Within target?
  - Dosage adjustment required?
    - No more than 10-15% increase/decrease in total weekly dose
    - Consider omitting doses for SUPRAtherapeutic INR
    - Consider extra doses for SUBtherapeutic INR
    - Consider vitamin K for reversal if necessary
- Determine timing of next follow-up

Warfarin Initiation Example

- AF, a 70 yo male, presents to clinic for f/u after initiation of warfarin at 5 mg daily three days ago
- His baseline INR was 1.0
- Today, his INR is at 1.3

Patient Case- AF

- Would you consider changing the warfarin dose? If so, by how much? And why?

- When would you re-check the INR?

Patient Case - KO

- KO a 56yo male presents to clinic for f/u of anticoagulation therapy
- Indication for warfarin: DVT diagnosed February of this year
- Target INR: 2-3
- Duration of therapy: 3 months
- Last assessed: 4 weeks ago
- INR at that time: 2.6
- Plan for warfarin at that time: continue 5 mg daily

Patient Case - KO

- Pt able to correctly state dose: yes
- Missed or extra doses: no
- Medication changes: no
- Changes in health status/disease states: no
- Recent illness: no
- Changes in diet/appetite: no
- Changes in alcohol use: 6 beers/day for the past 2 days (usually 1-2 beers per week)
- S/sx of bleeding: no
- S/sx of clotting: no
- Recent falls: no
- Upcoming surgery/procedure: no

Patient Case - KO

- Today's INR: 3.9
- What factors might have influenced KO's INR change?
- Would you consider changing the warfarin dose? If so, by how much?
- When would you re-check the INR?

Patient Case - TJ

- TJ a 52 yo female presents to clinic for f/u of anticoagulation therapy
- Indication for warfarin: recurrent DVTs (1992, 1998, 2004)
- Target INR: 2.0-3.0
- Duration of therapy: lifelong
- Last assessed: 4 weeks ago
- INR at that time: 2.8
- Plan for warfarin at that time: continue 7.5mg daily

Patient Case - TJ

- Pt able to correctly state dose: yes
- Missed or extra doses: no
- Medication changes: sulfamethoxazole/trimethoprim (SMX/TMP) x 3 days for urinary tract infection (UTI) which was started two days ago
- Changes in health status/disease states: UTI
- Recent illness: UTI, no diarrhea or vomiting
- Changes in diet/appetite: no
- Changes in alcohol use: none
- S/sx of bleeding: blood in urine
- S/sx of clotting: no
- Recent falls: no
- Upcoming surgery/procedure: no

Patient Case - TJ

- Today's INR: 4.3
- What factors might have influenced TJ's INR change?
- Would you consider changing the warfarin dose? If so, by how much?
- When would you re-check the INR?

Patient Case – JB

- JB a 63 yo male presents to clinic for f/u of anticoagulation therapy
- Indication for warfarin: Factor V Leiden with history of lower extremity DVT in 2003
- Target INR: 2.0-3.0
- Duration of therapy: lifelong
- Last assessed: 2 weeks ago
- INR at that time: 1.6 due to unknown etiology; previously therapeutic without frequent dose adjustments
- Plan for warfarin at that time: EXTRA 2 mg x 1, then continue 2 mg TuR and 4 mg all other days of the week. Of note, this is the highest weekly warfarin dose patient has ever been on.

Patient Case - JB

- Pt able to correctly state dose: yes
- Missed or extra doses: no
- Medication changes: no
- Changes in health status/disease states: no
- Recent illness: no
- Changes in diet/appetite: no
- Changes in alcohol use: none
- S/sx of bleeding: no
- S/sx of clotting: no
- Recent falls: no
- Upcoming surgery/procedure: no

Patient Case - JB

- Today's INR: 1.7
- What factors might have influenced JB's INR change?
- Would you consider changing the warfarin dose? If so, by how much?
- When would you re-check the INR?

Final Thoughts . . .

THE END!

Please EXIT the tutorial and proceed to take the quiz.