Anticoagulation Management Pearls

By: Anuja Rizal RPh, Pharm D. CACP
Anticoagulation Clinical Coordinator

March 29, 2022

1

Faculty Disclosure

- Dr. Rizal has no actual or potential conflict of interest associated with this presentation

2

Learning Objectives

- At the conclusion of this activity, pharmacists will be able to:
  - Describe effective anticoagulation management strategies
  - Describe components of effective anticoagulation education session
  - Identify barriers to learning

3

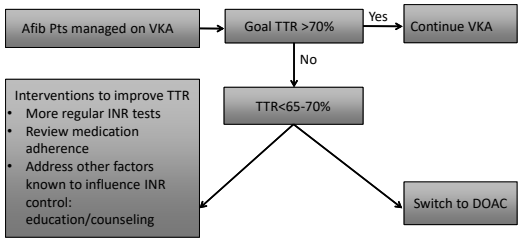
Background

- Effective anticoagulation management has been proven to improve pt. outcomes and safety
- 1st DOAC FDA approved in 2010
- Increased ADR's associated with use of DOACs since approval
- Anticoagulation clinics ideally suited to help improve management

4

2018 CHEST Guidelines Updates

- DOACs increasingly preferred agent per CHEST guidelines for both Afib and VTE patients



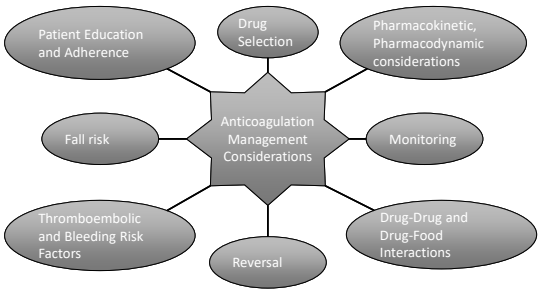
5

TJC NSPG Updates

- Effective January 2021, The Joint Commission updated its National Patient Safety Goal (NPSG) 03.05.01: Reduce the likelihood of harm to patients and residents associated with the use of anticoagulant therapy.
- Goal: reduce the risk of adverse drug events associated with heparin, low molecular weight heparin, warfarin, and direct oral anticoagulants (DOACs)
- https://www.jointcommission.org/-/media/tjc/documents/standards/national-patient-safety-goals/2021/npsg_chapter_ncc_jan2021.pdf

6

Anticoagulation Management Considerations



7

Effective Anticoagulation Management Strategies

- **Use written protocols and evidence-based practice guidelines**
- Staff education
- Patient and family education
- Transitions of care
- Adherence issues
- Motivational interviewing

8

Written Protocols & Evidence-Based Practice Guidelines

- TJC NPSG Requirement
- Address:
  - Initiation and maintenance including medication selection; dosing, including adjustments for age and renal or liver function; drug-drug and drug-food interactions (EP1)
  - Reversal and management of bleeding events (EP2)
  - Perioperative management (EP3)
  - Written policy to address baseline and ongoing laboratory tests to monitor and adjust anticoagulant (EP4)
  - Reporting ADR (EP5)

9

Written Protocols & Evidence-Based Practice Guidelines

- Address:
  - Referral Process
  - Indication and Duration of Anticoagulation
  - Patient Agreement
  - Adherence and Discharge Process
  - Medication Refills
  - Quality Assurance
  - Physician Oversight
  - Staff Education and Training

10

Effective Anticoagulation Management Strategies

- Use written protocols and evidence-based practice guidelines
- **Staff education**
- Patient and family education
- Transitions of care
- Adherence issues
- Motivational interviewing

11

Staff Education

- Initial Training
  - Physiology of coagulation
  - Hypercoagulable states
  - Pharmacology of Anticoagulant
    - Mechanism of Action
    - Pharmacokinetics and Pharmacodynamics
    - Adverse Effects
    - Contraindications and Precautions
    - Monitoring (Bleeding, non-hemorrhagic)
    - Initiation
    - Reversal
    - Interactions
      - Drug-Drug
      - Drug-Disease
      - Drug-Food Interactions

12

Staff Education

- Initial Training
  - Indication and duration for Anticoagulant Therapy
  - Perioperative management
  - Policies and procedures of clinic
  - Management strategies of non adherent pts
  - Motivational interviewing
  - Diversity training
- Initial and yearly competencies
- Re-training as needed

13

Effective Anticoagulation Management Strategies

- Use written protocols and evidence-based practice guidelines
- Staff education
- **Patient and family education**
- Transitions of care
- Adherence issues
- Motivational interviewing

14

Patient & Family Education

- Background
  - Standardized pharmacist provided anticoagulation counseling has been proven to:
    - Improve pt's medication knowledge and compliance
    - Improve outcomes
    - Reduce ADE
    - Decrease readmission rates
  - TJC recognizes patient/family education as a vital component of anticoagulation management and have included it in their National Patient Safety Goals (NSPG) (EP6)

15

Patient & Family Education

- TJC NPSG requirement
  - Collect and document preferred language into the pt's chart
  - Provide effective written and oral communication in pt's preferred language
  - Incorporate pt's cultural and spiritual values into their treatment
  - Ensure qualification of interpreters through proficiency assessment, training, education and experience

16

Case Presentation

- M.S. is 80yo Bhutanese Male Ht: 5ft 10in, Wt: 77kg with PAF with PMH of HTN, Anxiety and Depression on HD qMWF.
- Current Med List:
  - Metoprolol XL 50mg po qday
  - Fluoxetine 20mg po qday
  - Lorazepam 1mg po PRN anxiety
- Question: What barriers to learning may you encounter with this patient?

17

Patient & Family Education

- Identify Barriers to Learning
  - Cultural and Religious Considerations
  - Psychological Barriers
  - Desire and Motivation to Learn
  - Physical Limitation
  - Language Barrier
  - Health Care Literacy
  - Cognitive Ability
  - Learning Style

18

Cultural and Religious Considerations

- Religious beliefs
  - Dietary restrictions
  - Attitude towards healthcare and modern western medicine
- Cultural Issues
  - Direct vs. indirect communication
  - Identify which individual or family member makes health care decisions for the pt.
  - Family involvement

19

Management of Cultural & Religious Considerations

- Develop staff education/training
- Ask the patient
- Use online resources
  - https://www.hrsa.gov/cultural-competence/index.html
  - http://ethnomed.org/
  - http://depts.washington.edu/pfes/CultureClues.htm
- Use community resources
- Use interpreters
- Use internal resources (eg. Staff members)

20

Psychological Barriers

- Anxiety
- Depression
  - Feeling of hopelessness
- Bipolar disorder
- Dementia
- Psychosis
  - Delusional or paranoid

21

Management of Psychological Barriers

- Treat underlying psychiatric condition
- Utilize motivational interviewing strategies
- Utilize family members/care providers
- Interdisciplinary approach (Social worker, physician, nurse/VNA)

22

Desire & Motivation to Learn

- Denial
  - Lack of acceptance of diagnosis severity or prognosis
- Reward for non-adherence
  - Lose “medical disability” status which has work and financial implications
- Drug and Alcohol Dependence
- Stressors
  - Poverty and homelessness
  - Troubled relationship with significant others
  - Difficult parenting problems
  - Long working hours

23

Management of Desire & Motivation to Learn

- Denial-Pt. education on disease state & medication
- Drug & Alcohol dependence-Rehabilitation and counseling, Support groups, Motivational interviewing
- Stressors-
- Poverty & Homelessness-Shelters, Family and friends support
- Troubled relationship-Counseling, Support groups
- Difficulty parenting problems-Counseling, Support groups
- Long working hours-Identify ways to incorporate health care into the day
- Lose “medical disability” status which has work and financial implications-Provide incentives for not being disabled

24

Physical Limitation

- Vision Impairment
  - Glaucoma, Cataract
- Limited Mobility
  - Wheelchair/Bed bound
- Comorbid conditions
  - Parkinson's disease
  - Reynaud's disease
  - Arthritis

25

Management of Physical Limitation

- VNA
- Pill boxes
- Family members and Caregivers
- Assisted living facility medication management programs
- Pharmacy delivery of meds
- Pharmacy provided blister packs
- Magnifying glasses, glasses
- Easy open caps

26

Language Barrier

- Limited English Proficiency (LEP)
  - English not primary language
  - Limited ability to read, speak, write or understand English
- Deaf and Hard of Hearing

27

Management of Language Barrier

- Maintain eye contact with the patient
- Speak at a regular pace and volume
- Be aware facial expressions used to convey tone/meaning
- Use visual aids
- Use Interpreters

LEP and Deaf and Hard of Hearing Pts

LEP and Deaf and Hard of Hearing Pts

- Do not rely on lip reading
  - ✓ Only 30-45% of English is visible on the lips
- Do not assume pt. has hearing aid
- Use VRI-Video remote interpreting
- English and ASL have different grammar and syntax

28

Management of Language Barrier

- Use Interpreters
  - ❖ Mandated by multiple state and federal statues
  - ❖ Accurate and effective communication between provider and pt. recognized as most essential component of healthcare encounter

Qualified

- Assessed for their fluency in both languages
- Proficient in the skills and ethics of interpreting
- Knowledgeable about specialized medical terms and concepts.

Speak at regular pace and volume to pt. not interpreter

Unqualified

- Bilingual staff
- Minors
- Family and Friends

29

Health Care Literacy

- Definition: The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions (Ratzan and Parker, 2000).
- Low health care literacy results in more non-compliance, ER visits, hospital stay and mortality

30

Management of Health Care Literacy

- Provide education and counseling at 5th grade level
- Use visual aids
- Give simple, precise instructions

31

Cognitive Ability

- Pt's ability to process information
- Associated with learning and problem solving
- Involves memory, ability to learn new information, speech understanding of written material
- Verbal, spatial, psychomotor, and processing-speed ability
- Level of consciousness, memory, awareness, problem-solving, motor skills, analytical abilities, or other simple concepts.
- Elderly-Memory loss, trouble thinking of the right words while speaking or writing "drawing a blank"-affects their ability to understand instructions

32

Management of Cognitive Ability

- Keep communication to 5th grade level
- Use family members
- Use repeat back technique to ensure understanding

33

Learning Style

Visual- Individuals learn best by being able to see the information being presented.

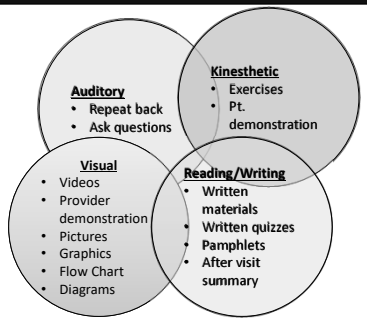
Auditory-Individuals learn best when listening and receiving verbal instruction

Reading/Writing-Individuals learn best by taking notes or reading printed text

Kinesthetic-Individuals learn best by being able to manipulate objects and gain hands on experience

34

Management of Learning Style



35

Case Presentation

- M.S. is 80yo Bhutanese Male Ht: 5ft 10in, Wt: 77kg with PAF with PMH of HTN, Anxiety and Depression on HD qMWF.
- Current Med List:
  - Metoprolol XL 50mg po qday
  - Fluoxetine 20mg po qday
  - Lorazepam 1mg po PRN anxiety
- Question: What barriers to learning may you encounter with this patient?
- Answer: Cultural, Language, Health Care Literacy, Cognitive Ability Psychological barrier

36

Components of Effective Anticoagulation Education

- Face-to-face interaction with trained professional who ensures the patients understands the risks involved, the precautions that should be taken, and the need for regular monitoring.
- Ongoing
- Tailored learning to meet pt's learning style
- Use of written resources, audio-visual aids
- Utilization of teach-back methods
- Include all family members, caregivers
- Culturally sensitive
- Use of interpreters as needed

37

Components of Effective Anticoagulation Education

- Assess baseline knowledge
- Ask open-ended questions
- Fill in gaps in baseline knowledge
- Keep message short and simple
- Use interdisciplinary approach (eg. Dietician, social workers, physician, nursing)
- Include fall reduction strategies
- Evaluate and document the patient's understanding of the education and training

38

Anticoagulation Education Topics

- Familiarize pt. with clinic staff members
- Clinic location, phone & fax #, hours of operation
- Indication
- Mechanism of Action
- Dose, Frequency
- How to administer
- Storage
- Missed doses
- Refill process

39

Anticoagulation Education Topics

- Drug-food interactions, alcohol and tobacco use with warfarin
- Drug-drug interactions (both prescription and OTC)
- Blood tests (Target INR, renal and hepatic function)
- Factors that change INR result
- Possible side effects
- Emergency treatment/surgical & dental procedures
- Pregnancy
- Precautions, Who and when pt. should call for questions/issues
- Activities of daily life & travelling
- Transitions of care

40

Case Presentation

- M.S. reports that he is scheduled for an epidural steroid injection in 1 month with Dr. Pokhrel and is looking for guidance regarding his anticoagulation for the upcoming procedure.
- Question:
  - What would you do with this information?

41

Effective Anticoagulation Management Strategies

- Use written protocols and evidence-based practice guidelines
- Staff education
- Patient and family education
- **Transitions of care**
- Adherence issues
- Motivational interviewing

42

Transition of Care Concerns

- Transitioning to/from hospital/SNF admissions
- Anticoagulation initiation
- Transitioning between oral anticoagulants
- Perioperative management

43

Transition of Care Concerns

- **Transitioning to/from hospital/SNF admissions**
  - Ineffective transition of care results in preventable hospital readmissions
  - Medicare codes 99495 and 99496 reimbursable for transitional of care services
    - Non face-to-face encounter w/in 48hrs after discharge
    - Face-to-face office visit 7-14 days post discharge
  - Counseling
    - Counsel pt. on proper use of new medications
    - Reinforce importance of adherence
  - Medication review/reconciliation
    - Identify and address changes or discrepancies noted
    - Identifies need for additional tests or lab work
  - Determine whether there are procedures or referrals ordered for the patient

44

Transition of Care Concerns

- **Anticoagulation initiation**
  - Current Weight
  - Pt's Age
  - Ensure no interacting meds on pt's profile
  - Assess pt. for appropriateness of prescribed regimen including indication, dose & frequency
  - Determine if overlap needed
  - Laboratory parameters
    - INR
    - Renal Function
    - Hepatic Function
    - H&H
  - See presentation on Direct Oral Anticoagulants and Factor IIa and Xa Inhibitors for additional details

45

Transition of Care Concerns

Transition between Anticoagulants

*******Transition between direct oral anticoagulants (DOACs): Start the new DOAC when the next dose of the previous DOAC was scheduled to be given*******

Drug Name	Dabigatran	Rivaroxaban	Apixaban	Edoxaban
Conversion from Warfarin	Discontinue warfarin and initiate Dabigatran as soon as INR < 2.	Discontinue warfarin and initiate Rivaroxaban as soon as INR < 3.	Discontinue warfarin and initiate Apixaban as soon as INR < 2	Discontinue warfarin and initiate Edoxaban as soon as INR < 2.5
Conversion to Warfarin	CrCl >50mL/min: Initiate warfarin 3 days before discontinuation of dabigatran. CrCl 31 to 50mL/min: Initiate warfarin 2 days before discontinuation of dabigatran. CrCl 15-30mL/min: Initiate warfarin 1 day before discontinuation of dabigatran. CrCl <15mL/min: Dabigatran should not be used	Discontinue Rivaroxaban and begin both a parenteral anticoagulant and warfarin when the next dose of Rivaroxaban was due. Discontinue parenteral anticoagulant when INR reaches a therapeutic range.	Discontinue Apixaban and begin both a parenteral anticoagulant and warfarin when the next dose of Apixaban was due. Discontinue parenteral anticoagulant when INR reaches a therapeutic range.	Oral Option: Reduce Edoxaban dose by 50%, initiate warfarin, and continue Edoxaban until stable INR 12 achieved. Measure INR at least weekly and just prior to Edoxaban dose. Parenteral Option: Discontinue Edoxaban and initiate parenteral anticoagulant and warfarin at next scheduled Edoxaban dose.
Conversion from a parenteral anticoagulant	Initiate dabigatran 1-2 hours prior to the time of the next scheduled dose of the parenteral anticoagulant (e.g. enoxaparin) Initiate at time of discontinuation for a continuously administered parenteral drug (e.g. IV heparin).	Initiate Rivaroxaban 0-2 hrs before the next scheduled evening dose and discontinue the other anticoagulant. Initiate Rivaroxaban at time of heparin continuous infusion discontinuation	Initiate Apixaban at the time of the next scheduled dose of the parenteral anticoagulant. Start Apixaban when the parenteral anticoagulant infusion is stopped (consult local protocol if the aPTT is above the target range)	Initiate Edoxaban at the time of next scheduled dose of parenteral anticoagulant. Initiate Edoxaban 4 hours after heparin continuous infusion discontinuation
Conversion to a parenteral anticoagulant	CrCl ≥30ml/min: Wait 12 hours after the last dose of dabigatran before initiating. CrCl<30ml/min: Wait 24hrs after the last dose of dabigatran before initiating.	Start the parenteral anticoagulant when the next dose of Rivaroxaban was scheduled to be given	Start the parenteral anticoagulant when the next dose of Apixaban was scheduled to be given	Start parenteral anticoagulant when next Edoxaban dose scheduled to be given

46

Transition of Care Concerns

- **Perioperative management**
  - Coordinate with physicians
  - Determine Thromboembolic Risk
  - Determine Bleeding Risk
  - Determine Timing of Anticoagulant Interruption
  - Assess whether "bridging" therapy needed
  - Provide education to patient/family members regarding interruption and administration of injectable anticoagulation if needed
  - Ensure prescription for LMWH sent to pt's pharmacy if needed

47

Case Presentation

- M.S. reports that he is scheduled for an epidural steroid injection in 1 month with Dr. Pokhrel and is looking for guidance regarding his anticoagulation for the upcoming procedure.

- Question:
  - What would you do with this information?
- Answer:
  - Assess pt's thromboembolic and bleeding risk involving the referring physician as well as Dr. Pokhrel
  - Develop perioperative strategy
  - Relay information to pt. and provide education as needed
  - Ensure pt's accessibility of prescribed medication

48

Effective Anticoagulation Management Strategies

- Use written protocols and evidence-based practice guidelines
- Staff education
- Patient and family education
- Transitions of care
- **Adherence issues**
- Motivational interviewing

49

Adherence Issues

- Barriers to Medication and Treatment Plan Adherence
  - Cognitive or physical impairment
  - Polypharmacy
  - Financial
    - Medication Cost
    - Limited income
  - Lack of social and family support
  - Comorbid conditions
  - Pt's cultural background

50

Management of Adherence Issues

- Simplify medication regimen
- Reduce medication cost
- Medication adherence aids
- Improve pt-prescriber relationship and communication
  - Use motivational interviewing
- Patient education
- Individualize strategy for each patient

51

Effective Anticoagulation Management Strategies

- Use written protocols and evidence-based practice guidelines
- Staff education
- Patient and family education
- Transitions of care
- Adherence issues
- **Motivational interviewing**

52

Motivational Interviewing

- Encourage pt's intrinsic motivation to implement positive change by:
  - Listening and collaborating with pt.
  - Understanding patient's motivation
  - Exploring and resolving ambivalence and resistance
  - Empowering and encouraging the pt.
  - Avoiding argument and judgement
  - Expressing empathy

53

Patient Case

M.S. mentions that he missed his last 2 doses of his anticoagulant medication because he ran out of pills for the month. What is the best response in this situation?

- A. Emphasize importance of adherence and stress the consequences for non-adherence including clinic's discharge process
- B. Suggest using pill box to help pt. remember
- C. Assess whether there is a financial reason why pt. ran out of pills and rectify as needed
- D. All of the above

54

AIDET

- **A**cknowledge
  - Greet the patient by name
  - Acknowledge their right to confidentiality
- **I**ntroduce
  - Introduce yourself
- **D**uration
  - Inform the patient how long the visit is anticipated to take
- **E**xplanation
  - Explain what will happen during the visit
- **T**hank You
  - Thank the patient and ask if they have any questions

55

References

- Ratzan SC, Parker RM. 2000. Introduction. In: *National Library of Medicine Current Bibliographies in Medicine: Health Literacy*. Selden CR, editor; , Zorn M, editor; , Ratzan SC, editor; , Parker RM, editor. , Editors. NLM Pub. No. CBM 2000-1. Bethesda, MD: National Institutes of Health, U.S. Department of Health and Human Services.
- https://www.ncbi.nlm.nih.gov/books/NBK216035/#_ddd00036_
- https://blog.prezi.com/the-four-different-types-of-learners-and-what-they-mean-to-your-presentations-infographic/
- https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/409914
- https://www.jointcommission.org/assets/1/6/NPSG_Chapter_HAP_Jan2019.pdf
- https://www.jud.ct.gov/LEP/LAP_Policy_Statement.pdf
- https://www.bid.org.uk/downloads/resources/a5-guide-to-working-with-deaf-people-in-a-health-setting.pdf
- http://www.lifeprint.com/asl101/topics/facial-expressions-if-you-are-not-using.htm
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5571787/
- https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthlittoolkit2-tool10.html
- https://www.pharmacytimes.com/contributor/blair-thielemier-pharmd/2016/09/the-role-of-the-transitional-care-management-pharmacist

56