Dr Emma-Jane McDonald

Clinical Haematologist

Christchurch

Saturday, August 13, 2016

(Room 6)

14:00 - 14:55 WS #109: Oral Anticoagulation in 2016

15:05 - 16:00 WS #120: Oral Anticoagulation in 2016 (Repeated)

Oral anticoagulation in 2016

Dr Emma-Jane McDonald

Haematologist, Christchurch Hospital

Question 1

A 46 year old female had an unprovoked DVT in her left leg 6 months ago having previously had a DVT at the age of 41 (treated with 3 months of warfarin).

This time she has been given twice daily dabigatran. As you discuss her problem with her you would be right in saying:

- If she stops taking dabigatran now her risk of a recurrent DVT is the same as that of the general population
- Dabigatran should now be stopped as treatment is only needed for 3 months
- Dabigatran is a vitamin K antagonist so she should avoid vitamin K rich foods such as Brussels sprouts
- There is no known antidote for dabigatran
- Lifelong anticoagulation is recommended

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Please enter the URL below.

https:// api.cvent.com/polling/v1/api/polls/sp-7yr4oe

Note: Many popular websites allow secure access. Please click on the preview button to ensure the web page is accessible.

Preview

Question 2

- A 75 year old lady is on dabigatran for AF and is due to have an elective knee operation. Her creatinine clearance is 42. Which is the correct management regarding her anticoagulation?

  - No need to stop dabigatran
  - Stop dabigatran 72 hours prior to surgery, bridging not required
  - Stop dabigatran 72 hours prior to surgery and ensure she has bridging therapy with LMWH
  - Stop dabigatran 96 hours prior to surgery, bridging not required
  - Stop dabigatran 96 hours prior to surgery and ensure she has bridging therapy with LMWH

Insert Web Page

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Please enter the URL below.

https:// api.cvent.com/polling/v1/api/polls/sp-2d5ows

Note: Many popular websites allow secure access. Please click on the preview button to ensure the web page is accessible.

Preview

Question 3

- An 85 year old man is anticoagulated with warfarin for a previous unprovoked massive PE. He has multiple comorbidities and is on several other medications. His INR has been poorly controlled recently and you are concerned about his compliance with treatment and bleeding risk. Which is the most appropriate course of action?

- Stop all anticoagulation
- Stop warfarin and commence dabigatran
- Continue warfarin but lower the target INR
- Continue warfarin but arrange for him to have a blister pack for his medications

Emma-Jane McDonald - Anticoagulation 3

An 85 year old man is anticoagulated with warfarin for a previous unprovoked massive PE. He has multiple comorbidities and is on several other medications. His INR has been poorly controlled recently and you are concerned about his compliance with treatment and bleeding risk. Which is the most appro

Question 4

- A 56 year old lady requires anticoagulation for an unprovoked DVT. Which of the following statements is true

- Warfarin is most appropriate, dabigatran is not indicated in upfront treatment of DVT
- Dabigatran is most appropriate, the bleeding risk is lower than with warfarin particularly in younger patients
- Dabigatran is most appropriate, it is cheaper
- Either warfarin or dabigatran could be used

Emma-Jane McDonald - Anticoagulation 4

A 56 year old lady requires anticoagulation for an unprovoked DVT. Which of the following statements is true

Question 5

- A 68 year old lady is on dabigatran, she has a history of AF, stroke and has a residual left sided weakness. She presents to you following a head injury and mild confusion. Her eGFR is 55, her last dose of dabigatran was yesterday morning. Which statement is true?

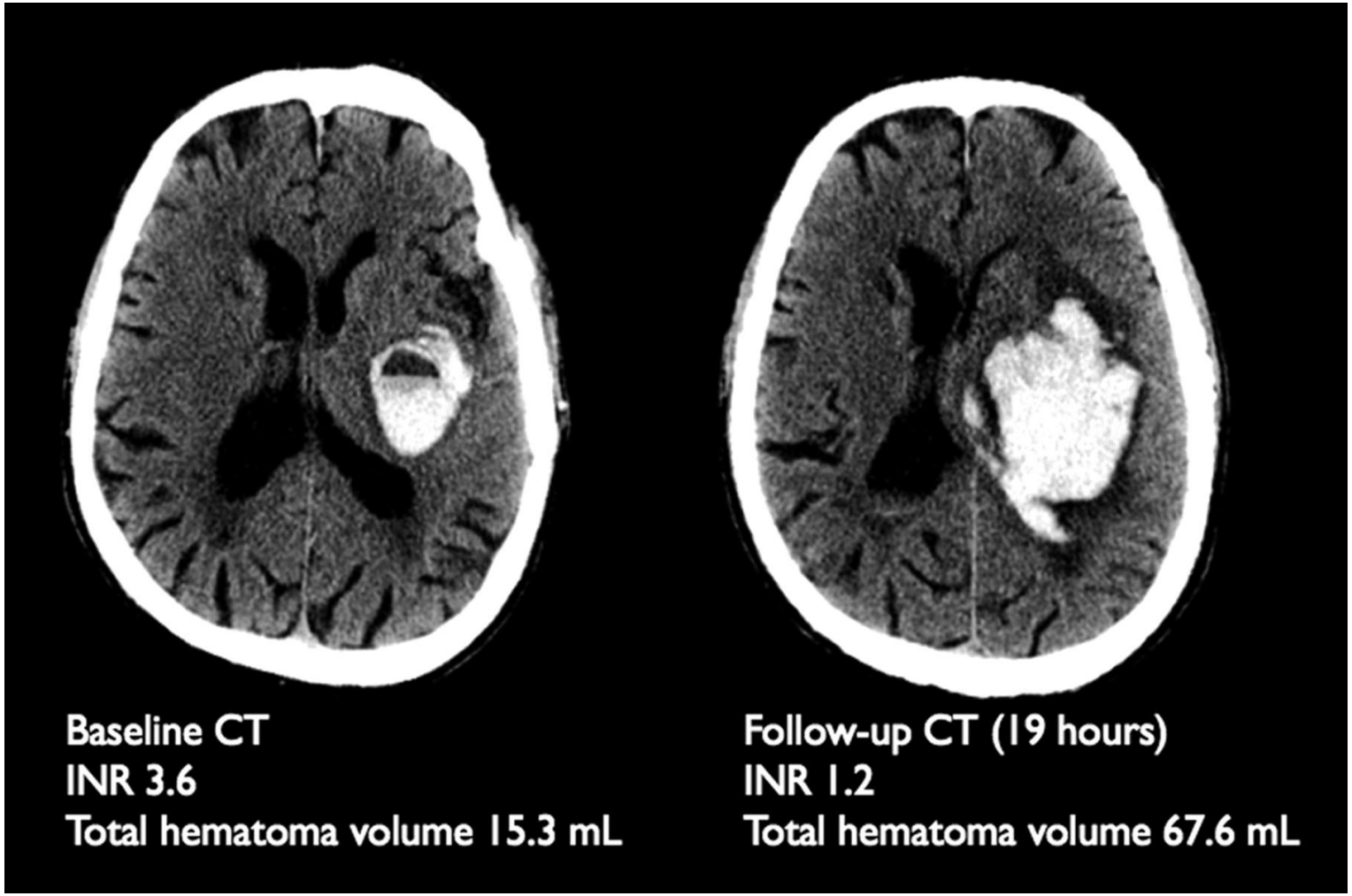
- She will have cleared the dabigatran so coagulation screen is not required
- She is at high risk for a bleed due to the presence of ongoing dabigatran in her system
- TCT (thrombin clotting time) can be checked as part of the routine coagulation screen and is important in assessing the presence of dabigatran
- There is no reversal agent for dabigatran

Emma-Jane McDonald - Anticoagulation 5

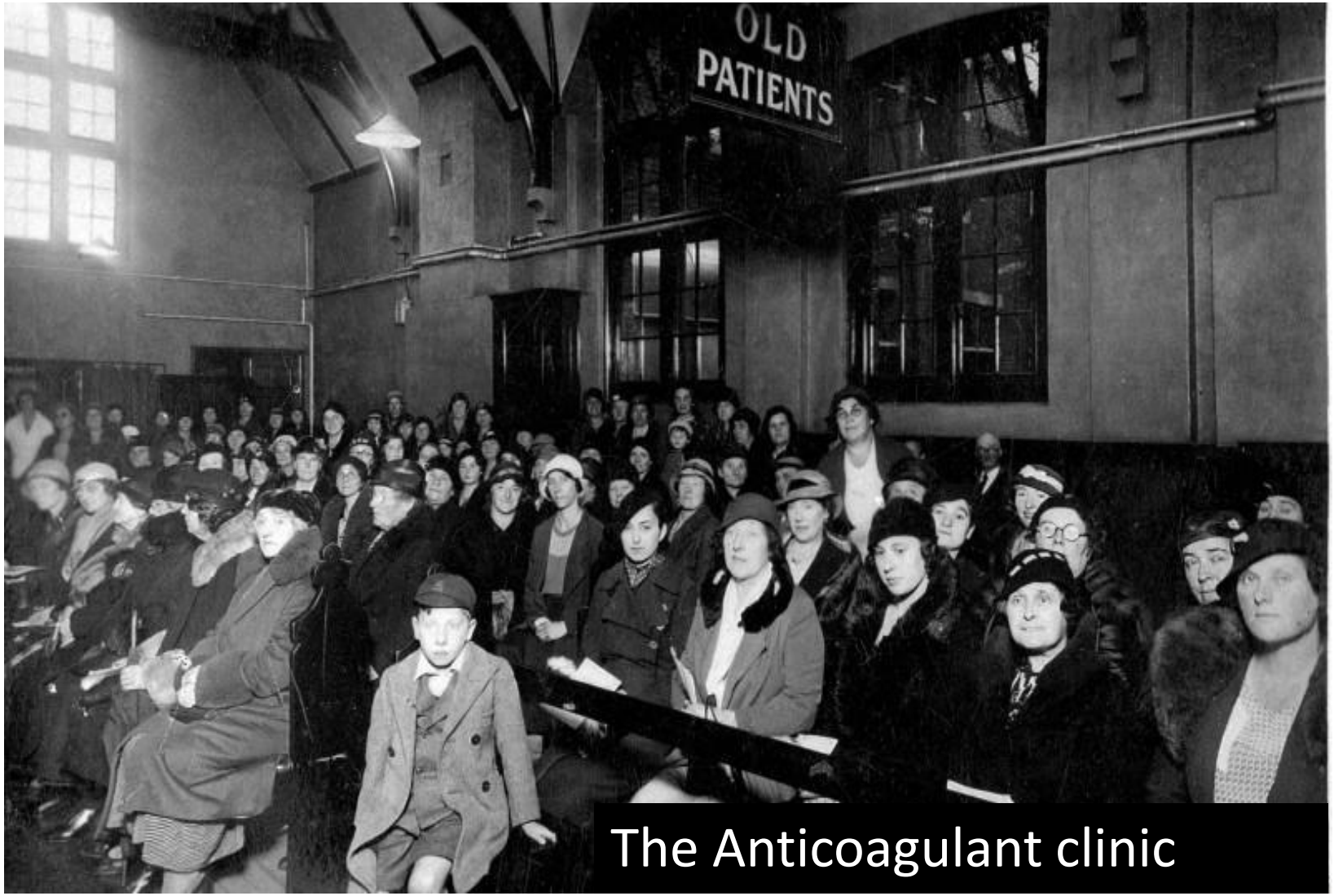
A 68 year old lady is on dabigatran, she has a history of AF, stroke and has a residual left sided weakness. She presents to you following a head injury and mild confusion. Her eGFR is 55, her last dose of dabigatran was yesterday morning. Which statement is true?

a) She will have cleared the dabigatran ...	0.0 %
b) She is at high risk for a bleed due ...	0.0 %
c) TCT (thrombin clotting time) can be c...	0.0 %
d) There is no reversal agent for dabiga...	0.0 %


US
VS
THEM
HAEMATOLOGIST
CARDIOLOGIST



Dowlatshahi, D., et al. (2012). "Poor prognosis in warfarin-associated intracranial hemorrhage despite anticoagulation reversal." Stroke 43(7): 1812-1817.

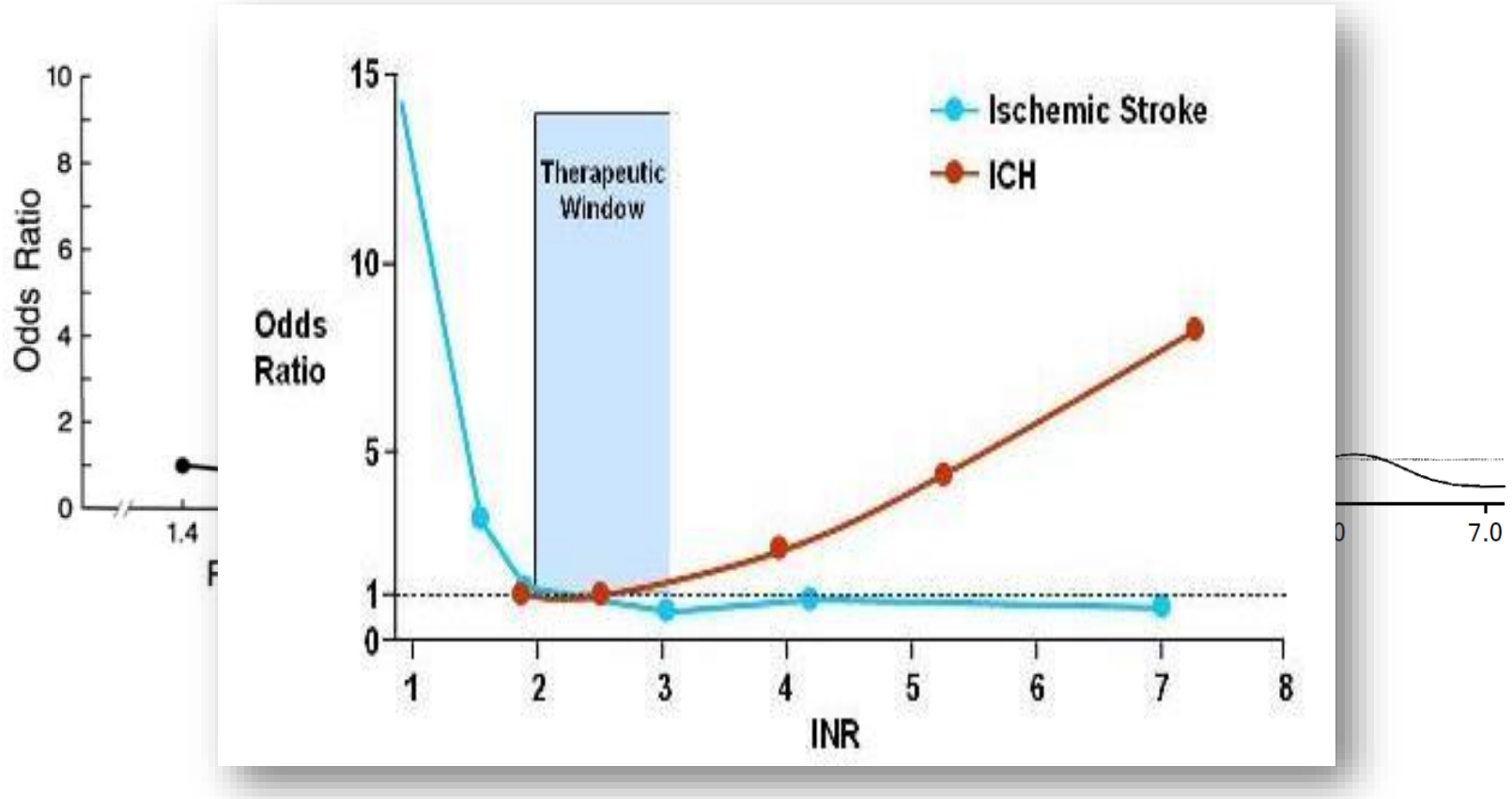


The Anticoagulant clinic

Aims

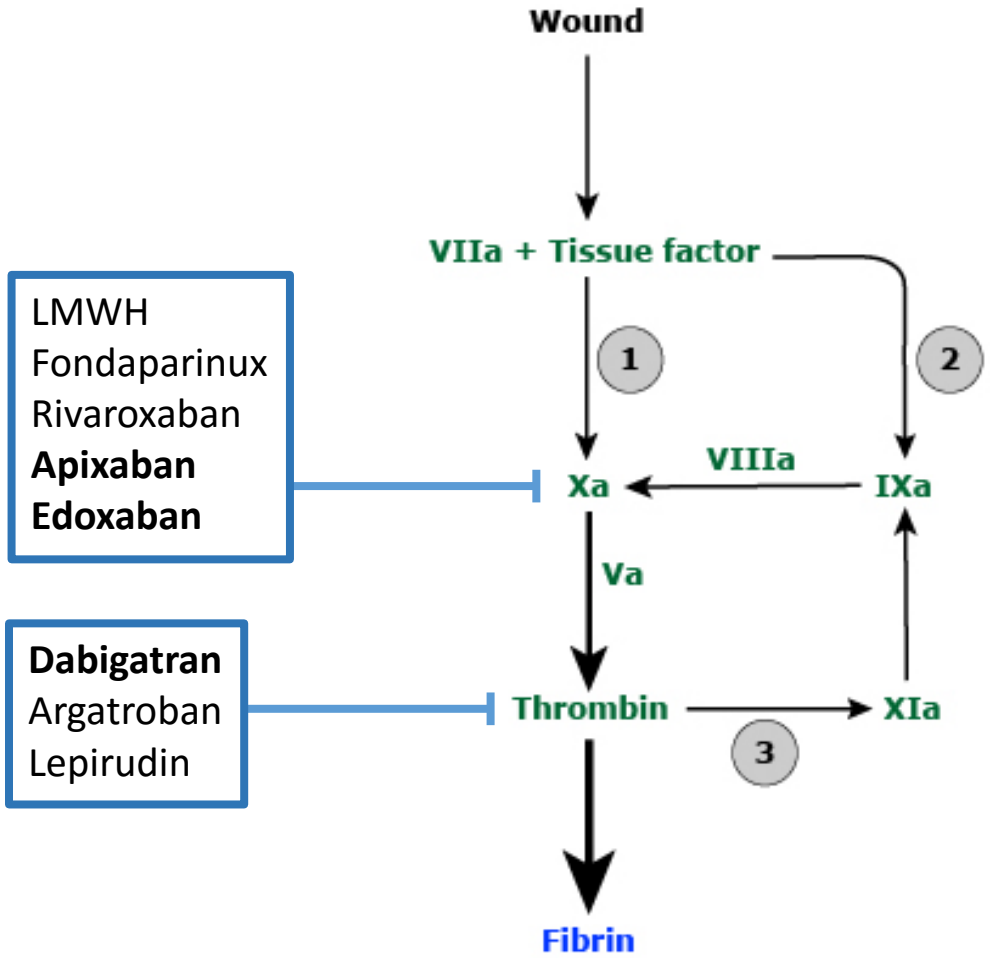
- What do we mean by novel anticoagulants?
- Randomised trial data of dabigatran
- Post marketing data
- Laboratory monitoring
- Reversal of dabigatran
- How I use dabigatran
- Take home points

The world until 2009



Hylek, E. M. and D. E. Singer (1994). Ann Intern Med 120(11): 897-902.
Hylek, E. M., et al. (1996). N Engl J Med 335(8): 540-546.

Direct-acting anticoagulants



www.uptodate.com accessed 12th February 2016

“Introducing anticoagulation with no injections and no monitoring”

* Ben Goldacre, author of Bad Science and Bad Pharma

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 SEPTEMBER 17, 2009 VOL. 361 NO. 12

RE-LY (2009)

Dabigatran versus Warfarin in Patients with Atrial Fibrillation

Stuart J. Connolly, M.D., Michael D. Ezekowitz, M.B., Ch.B., D.Phil., Salim Yusuf, F.R.C.P.C., D.Phil., John Eikelboom, M.D., Jonas Oldgren, M.D., Ph.D., Amit Parekh, M.D., Janice Pogue, M.Sc., Paul A. Reilly, Ph.D., Ellison Themeles, B.A., Jeanne Varrone, M.D., Susan Wang, Ph.D., Marco Alings, M.D., Ph.D., Denis Xavier, M.D., Jun Zhu, M.D., Rafael Diaz, M.D., Basil S. Lewis, M.D., Harald Darius, M.D., Hans-Christoph Diener, M.D., Ph.D., Campbell D. Joyner, M.D., Lars Wallentin, M.D., Ph.D., and the RE-LY Steering Committee and Investigators*

ORIGINAL ARTICLE

Dabigatran versus Warfarin in the Treatment of Acute Venous Thromboembolism

Sam Schulman, M.D., Clive Kearon, M.D., Ajay K. Kakkar, M.D., Patrick Mismetti, M.D., Sebastian Schellong, M.D., Henry Eriksson, M.D., David Baanstra, M.Sc., Janet Schnee, M.D., and Samuel Z. Goldhaber, M.D., for the RE-COVER Study Group*

RE-COVER (2009)

ORIGINAL ARTICLE

Extended Use of Dabigatran, Warfarin, or Placebo in Venous Thromboembolism

Sam Schulman, M.D., Ph.D., Clive Kearon, M.D., Ajay K. Kakkar, M.B., B.S., Ph.D., Sebastian Schellong, M.D., Henry Eriksson, M.D., Ph.D., David Baanstra, M.Sc., Anne Mathilde Kvamme, M.Sc.Pharm., Jeffrey Friedman, M.D., Patrick Mismetti, M.D., and Samuel Z. Goldhaber, M.D., for the RE-MEDY and the RE-SONATE Trials Investigators*

RE-MEDY and RE-SONATE (2013)

2009

The NEW ENGLAND JOURNAL of MEDICINE

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The average patient:

- 71 years
- 83 kg
- CrCl 106 ml/min
- 40% on aspirin

8,113 patients:

- Previous CVA or TIA
- LVEF <40%
- NYHA class II or higher
- >75 years
- >65 years and DM, BP, CAD
- CrCl >30 ml/min

- Dabigatran 110mg BD
  - 1.53% v. 1.69% stroke or embolism
  - 2.71% v 3.36% major bleeding
- Dabigatran 150mg BD
  - 1.11% v. 1.69% stroke or embolism
  - 3 .11% v 3.36% major bleeding

Connolly, S. J., et al. (2009). "Dabigatran versus warfarin in patients with atrial fibrillation." N Engl J Med **361**(12): 1139-1151.

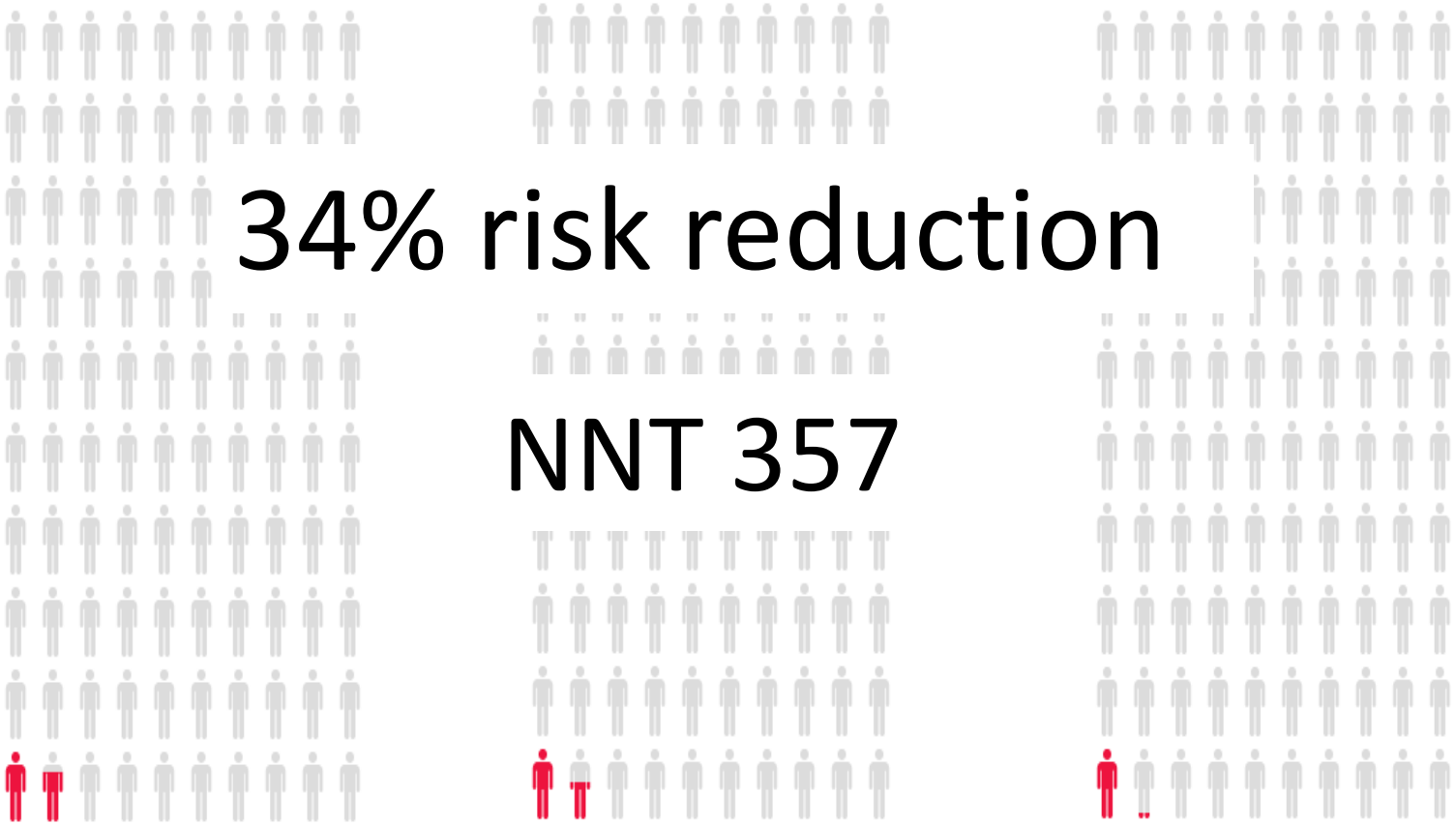
Major bleeding in RE-LY

Warfarin 3.36%

110mg BD 2.71%

150mg BD 3.11%

Stroke and embolism in RE-LY



http://www.iconarray.com

The NEW ENGLAND JOURNAL of MEDICINE

CORRESPONDENCE

- "Individualised dosing, based on weight and estimated creatinine clearance, might improve the risk-benefit ratio" [Houston and Zarychanski]

- *"We are evaluating the importance of the assessment of renal function in dose selection with the use of information on plasma concentration."* *[RE-LY investigators]*

Houston, D. S., et al. (2009). "Dabigatran versus Warfarin in Patients with Atrial Fibrillation." N Engl J Med **361**(27): 2671-2675.

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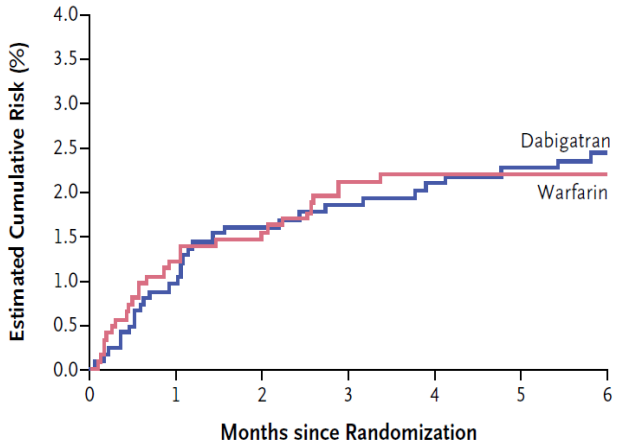


Figure 1. Cumulative Risk of Recurrent Venous Thromboembolism or Related Death during 6 Months of Treatment among Patients Randomly Assigned to Dabigatran or Warfarin.

- Dabigatran 150 mg BD v target INR 2-3
- 6-month recurrence rate
  - 2.4% v 2.1%
- Major bleeding
  - 1.6% v 1.9%

Schulman, S., et al. (2009). "Dabigatran versus warfarin in the treatment of acute venous thromboembolism." N Engl J Med **361**(24): 2342-2352.

Dabigatran and the regulators

USA

- Accelerated approval process
- 150mg BD for all patients
  - Non-valvular AF
  - DVT/PE
- 75mg BD*
  - CrCl 15-30 ml/min

Europe, Australasia

- 150mg BD
  - <75 years, AF, CrCl>50
  - Treatment and prevention of DVT/PE (CrCl >30)
- 110mg BD
  - 75-80 years, low embolic risk, high bleeding risk
  - CrCl 30-50, non-valvular AF
  - Prophylaxis post TKR
- EMA required physician education, monitoring of renal function, publication of therapeutic drug levels and availability of a test to measure effect

Moore, T. J., et al. (2014). "Dabigatran, bleeding, and the regulators." BMJ 349: g4517.
Cohen, D. (2014). "Dabigatran: how the drug company withheld important analyses." BMJ **349**: g4670.

Post-marketing data

- Dabigatran available in NZ since July 1, 2011
- 7000 patients started treatment in the first 2 months
- Phase IV study
- No comparators

- 78 episodes of bleeding,
  - 12 were major
  - Two thirds were >80 years
  - 58% had moderate or severe renal impairment
  - 50% weighed less than 60kg
- Contributing factors
  - Prescriber error
  - Impaired renal function
  - Patient age
  - Complications arising from the lack of a reversal agent

Harper, P., et al. (2012). "Bleeding risk with dabigatran in the frail elderly." N Engl J Med **366**(9): 864-866.

Post marketing data

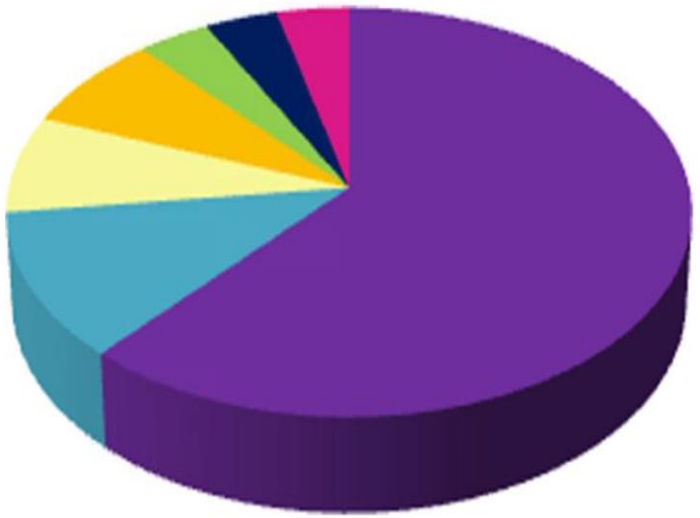
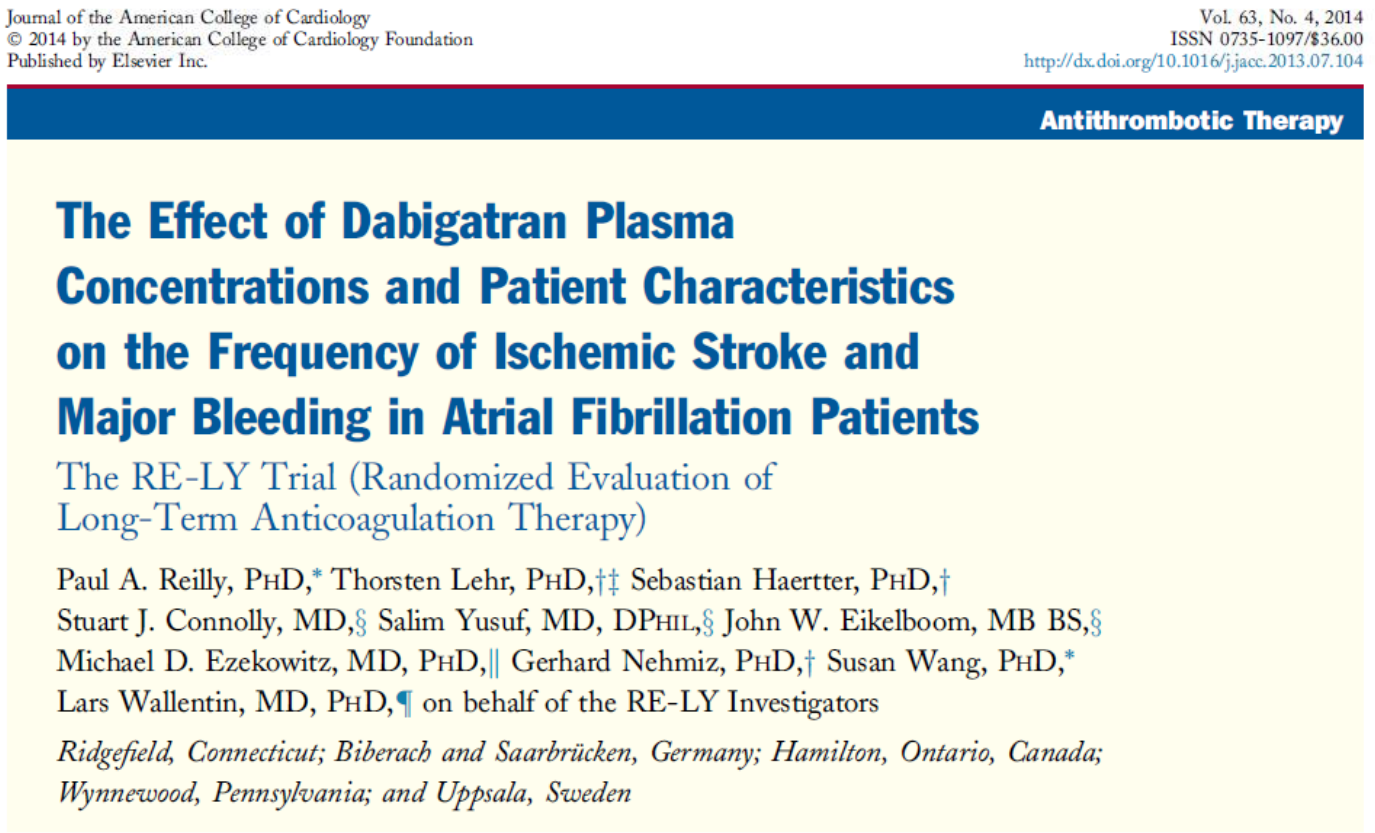


Figure 2 Reason for dabigatran cessation. (■), GI symptoms; (■), no antidote; (■), worsening renal function; (■), myocardial infarction; (■), itching; (■), major haemorrhage; (■), other.

- 92 patients in CCDHB
- Telephone and questionnaire
- 2:1 ratio on 110 or 150 mg BD
- Opinion was polarised
- 30% stopped
- One quarter had <80% compliance

Thorne, K., et al. (2014). Intern Med J **44**(3): 261-265.

Pre-specified analysis of RE-LY



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2014

Antithrombotic Therapy

The Effect of Dabigatran Plasma Concentrations and Patient Characteristics on the Frequency of Ischemic Stroke and Major Bleeding in Atrial Fibrillation Patients

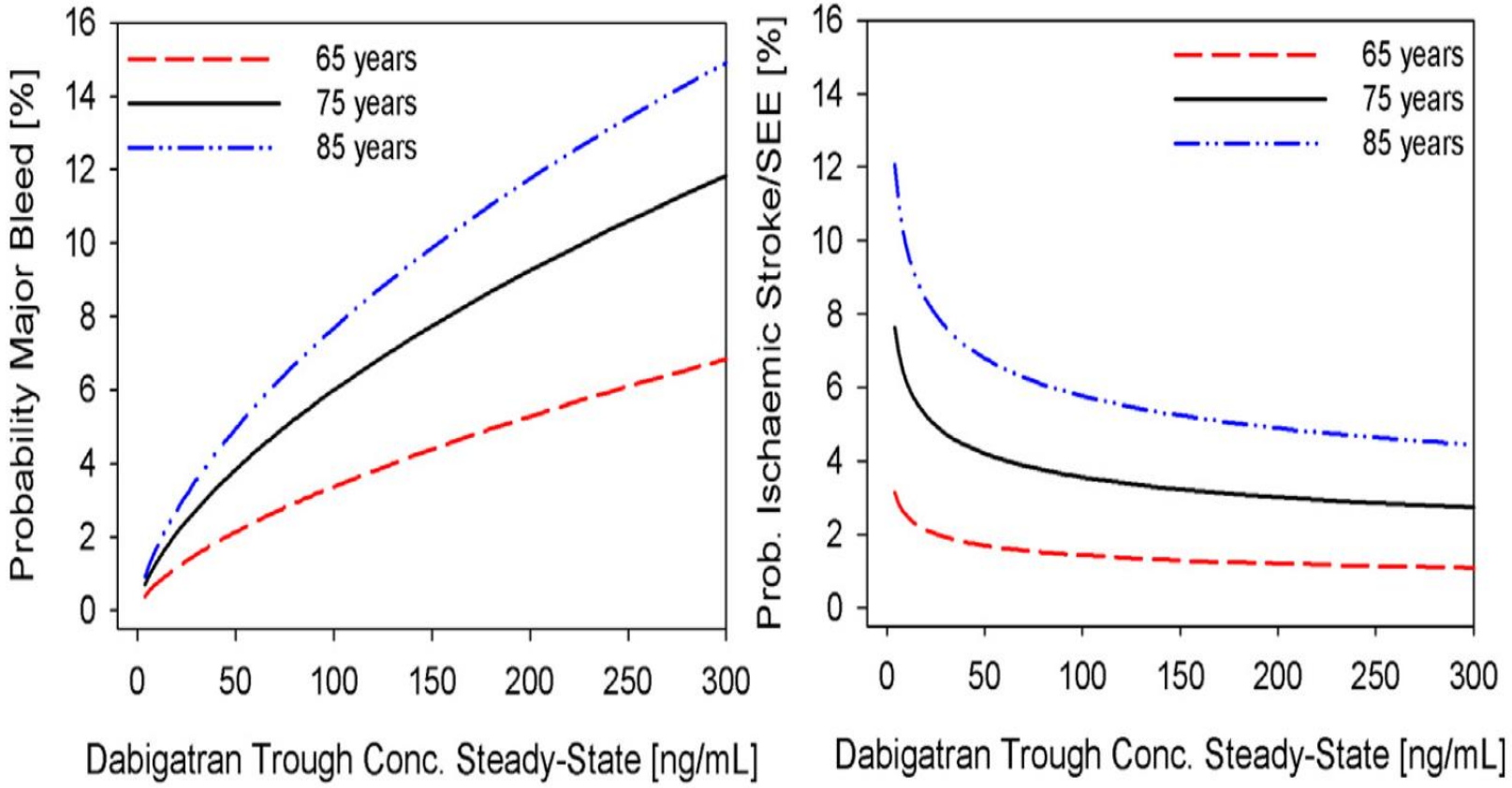
The RE-LY Trial (Randomized Evaluation of Long-Term Anticoagulation Therapy)

Paul A. Reilly, PhD,* Thorsten Lehr, PhD,†‡ Sebastian Haertter, PhD,† Stuart J. Connolly, MD,§ Salim Yusuf, MD, DPhil,§ John W. Eikelboom, MB BS,§ Michael D. Ezekowitz, MD, PhD,‖ Gerhard Nehmiz, PhD,† Susan Wang, PhD,* Lars Wallentin, MD, PhD,¶ on behalf of the RE-LY Investigators

Ridgefield, Connecticut; Biberach and Saarbrücken, Germany; Hamilton, Ontario, Canada; Wynnewood, Pennsylvania; and Uppsala, Sweden

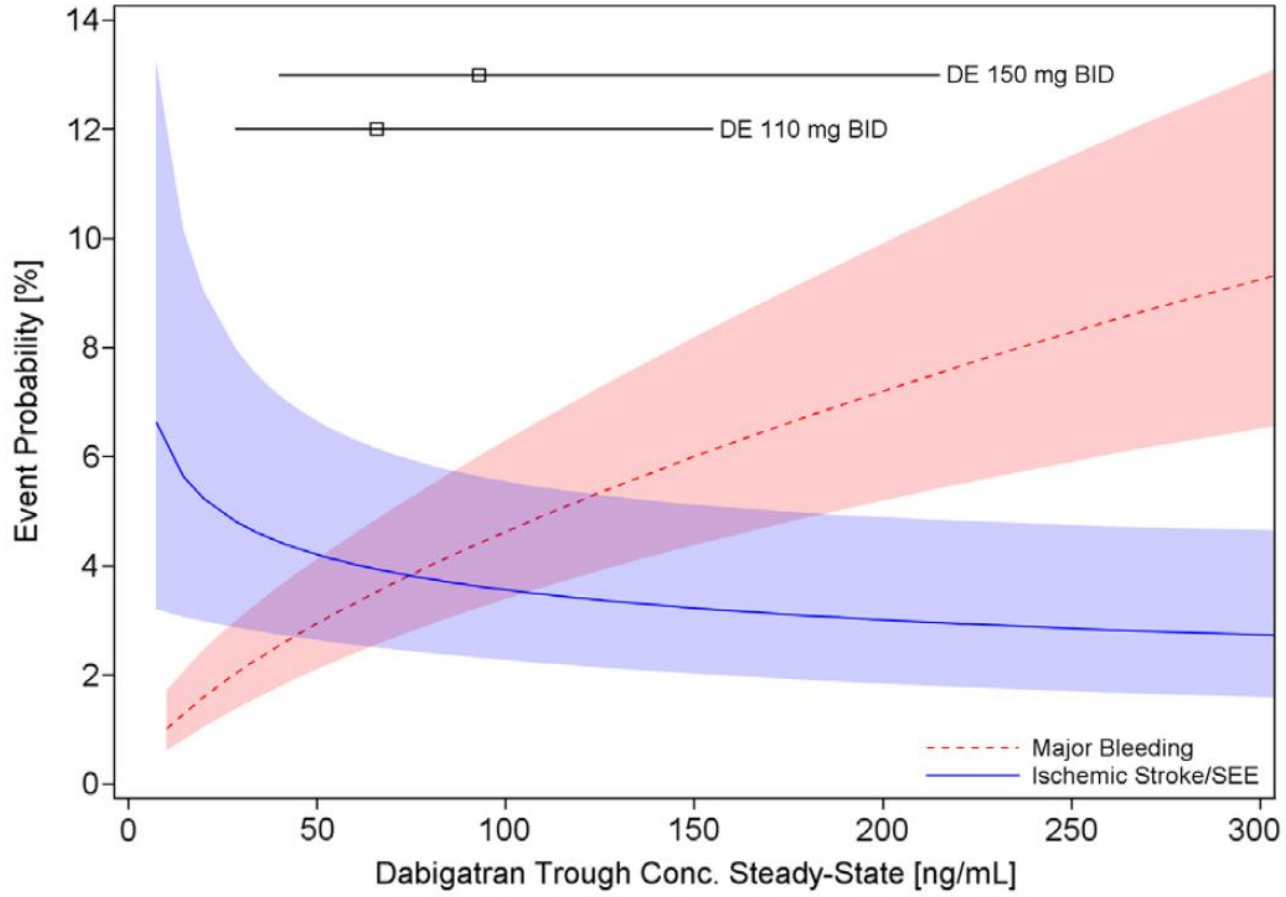
Reilly, P. A., et al. (2014). J Am Coll Cardiol **63**(4): 321-328.

Plasma concentration v outcomes



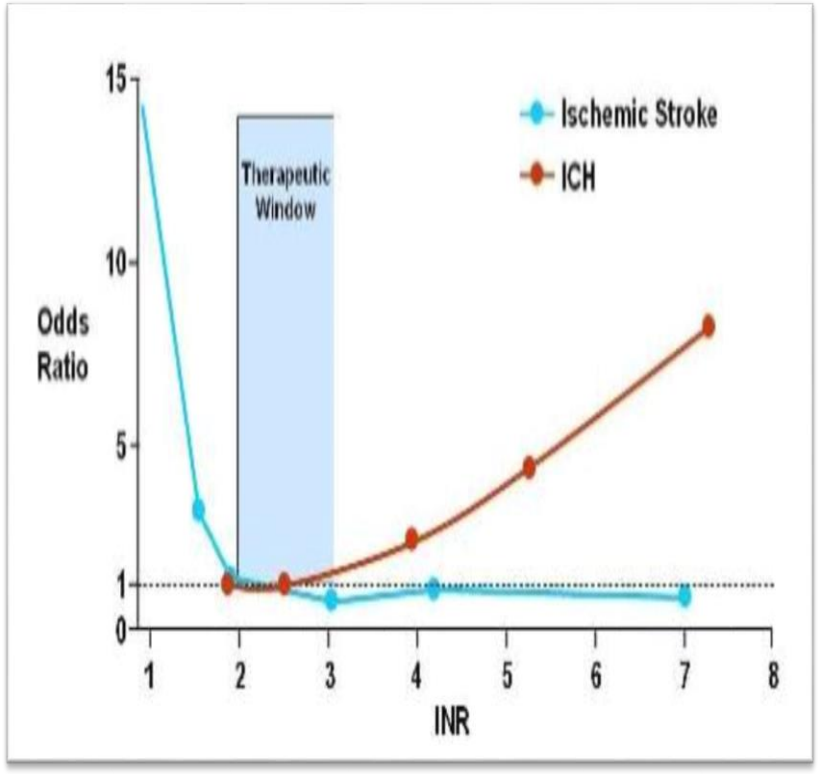
Reilly, P. A., et al. (2014). J Am Coll Cardiol **63**(4): 321-328.

5-fold variation in drug levels

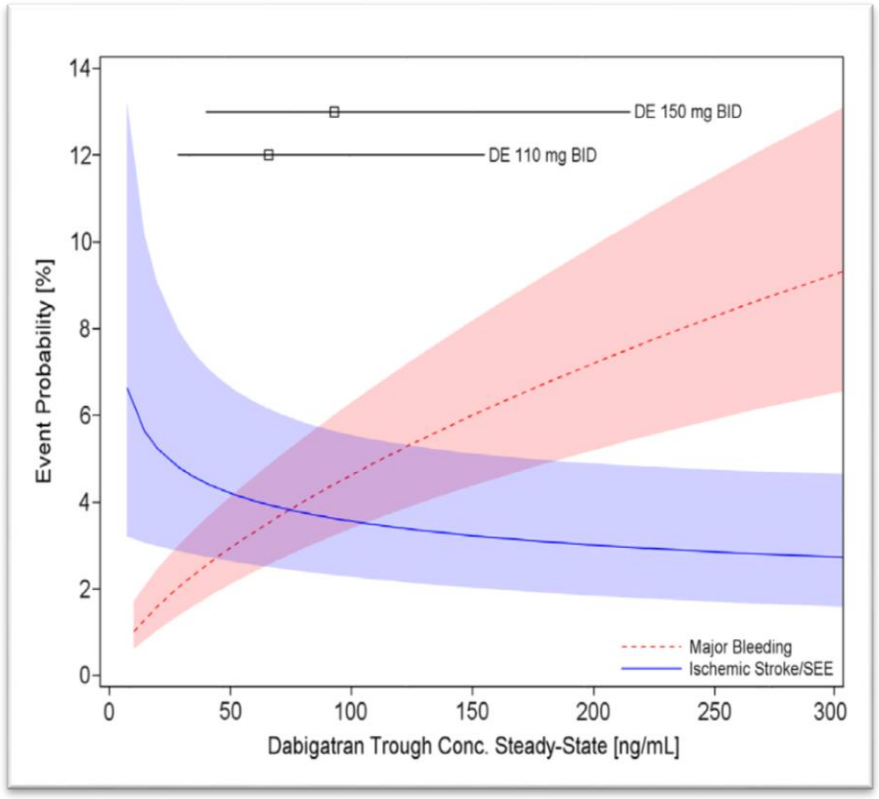


Reilly, P. A., et al. (2014). J Am Coll Cardiol **63**(4): 321-328.

Bleeding vs stroke risk



Warfarin



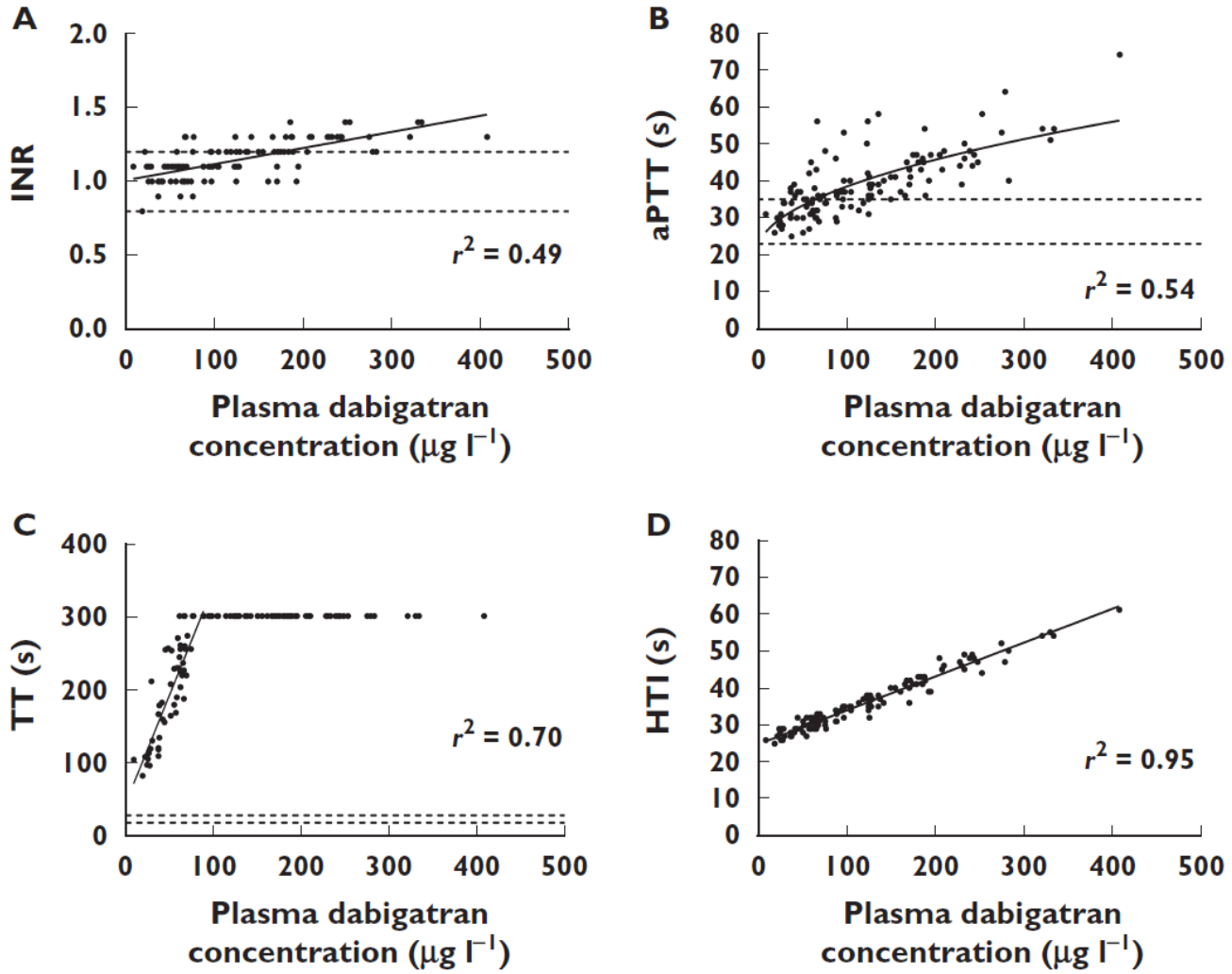
Dabigatran

Laboratory tests

Echis carinatus (Saw scaled viper)

- Readily available
- Result within 60 mins
- Qualitative
  - Thrombin clotting time
  - aPTT
- Quantitative
  - Ecarin clotting time (ECT)
  - Dilute thrombin time (dTT or Hemoclot™assay
  - HPLC to measure drug levels

Baglin, T., et al. (2012). "Effects on routine coagulation screens and assessment of anticoagulant intensity in patients taking oral dabigatran or rivaroxaban: Guidance from the British Committee for Standards in Haematology." Brit J Haematol **159**: 427-429.



Chin, P. K., et al. (2014). "Coagulation assays and plasma fibrinogen concentrations in real-world patients with AF treated with dabigatran." Br J Clin Pharmacol **78**(3): 630-638.

Monitoring

- Bleeding
- Surgery or invasive procedures
- Overdose
- Check compliance
- Patient has developed renal failure
- Patient has a thrombosis on treatment (compliance or failure?)
- Establishing optimal dose in patients at extremes of weight
- Establishing optimal dose in patients with significant drug interactions

Management of bleeding 1

PRADAXA – PHARMACOLOGICAL DATA[3]

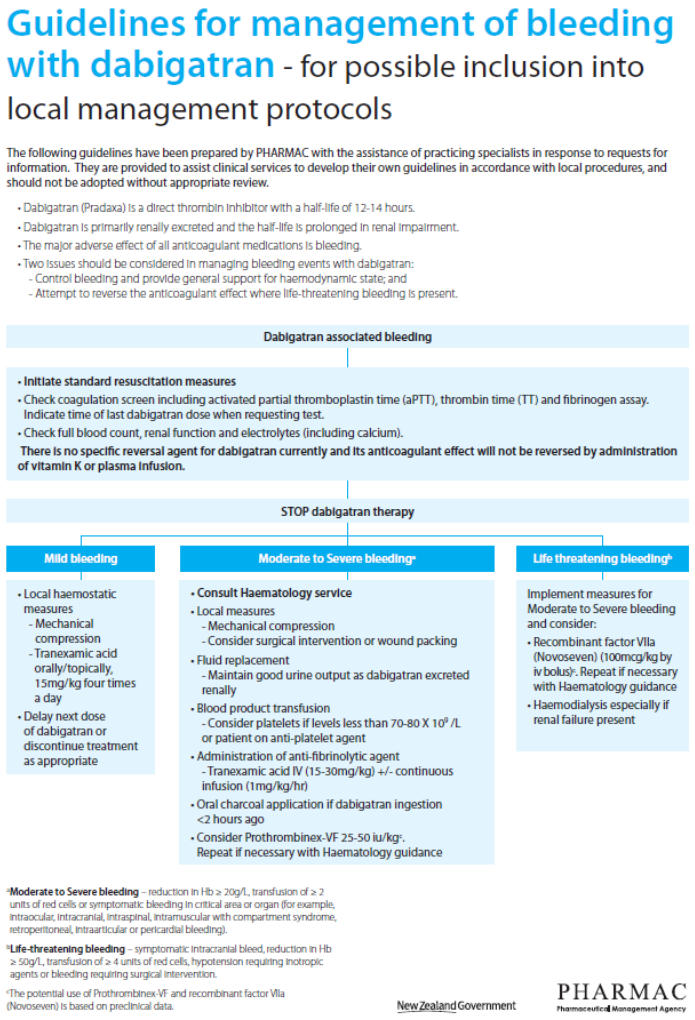
- Maximum dabigatran plasma concentration 0.5 – 2 h after intake
- 85% renal elimination
- Plasma half-life:

Renal function (CrCl mL/min)	Dabigatran half-life (hours)
≥80 ml/min	~13
≥50 – <80 ml/min	~15
≥30 – <50 ml/min	~18
<30 ml/min*[4]	27

*Pradaxa is contraindicated in patients with CrCl <30 ml/min

http://products.boehringer-ingelheim.com/pradaxa/resources/prescriber-and-patient-guides Accessed 10/2/16

Management of bleeding 2



Guidelines for management of bleeding with dabigatran - for possible inclusion into local management protocols

The following guidelines have been prepared by PHARMAC with the assistance of practicing specialists in response to requests for information. They are provided to assist clinical services to develop their own guidelines in accordance with local procedures, and should not be adopted without appropriate review.

- Dabigatran (Pradaxa) is a direct thrombin inhibitor with a half-life of 12-14 hours.
- Dabigatran is primarily renally excreted and the half-life is prolonged in renal impairment.
- The major adverse effect of all anticoagulant medications is bleeding.
- Two issues should be considered in managing bleeding events with dabigatran:
  - Control bleeding and provide general support for haemodynamic state; and
  - Attempt to reverse the anticoagulant effect where life-threatening bleeding is present.

Dabigatran associated bleeding

- **Initiate standard resuscitation measures**
- Check coagulation screen including activated partial thromboplastin time (aPTT), thrombin time (TT) and fibrinogen assay. Indicate time of last dabigatran dose when requesting test.
- Check full blood count, renal function and electrolytes (including calcium).

There is no specific reversal agent for dabigatran currently and its anticoagulant effect will not be reversed by administration of vitamin K or plasma infusion.

STOP dabigatran therapy

Mild bleeding

- Local haemostatic measures
  - Mechanical compression
  - Tranexamic acid orally/topically, 15mg/kg four times a day
- Delay next dose of dabigatran or discontinue treatment as appropriate

Moderate to Severe bleeding[a]

- **Consult Haematology service**
- Local measures
  - Mechanical compression
  - Consider surgical intervention or wound packing
- Fluid replacement
  - Maintain good urine output as dabigatran excreted renally
- Blood product transfusion
  - Consider platelets if levels less than 70-80 X 10^9 /L or patient on anti-platelet agent
- Administration of anti-fibrinolytic agent
  - Tranexamic acid IV (15-30mg/kg) +/- continuous infusion (1mg/kg/hr)
- Oral charcoal application if dabigatran ingestion <2 hours ago
- Consider Prothrombinex-VF 25-50 iu/kg[c]. Repeat if necessary with Haematology guidance

Life threatening bleeding[b]

Implement measures for Moderate to Severe bleeding and consider:

- Recombinant factor VIIa (Novoseven) (100mcg/kg by iv bolus)[c]. Repeat if necessary with Haematology guidance
- Haemodialysis especially if renal failure present

[a] **Moderate to Severe bleeding** – reduction in Hb ≥ 20g/L, transfusion of ≥ 2 units of red cells or symptomatic bleeding in critical area or organ (for example, intraocular, intracranial, intraspinal, intramuscular with compartment syndrome, retroperitoneal, intraarticular or pericardial bleeding).

[b] **Life-threatening bleeding** – symptomatic intracranial bleed, reduction in Hb ≥ 50g/L, transfusion of ≥ 4 units of red cells, hypotension requiring inotropic agents or bleeding requiring surgical intervention.

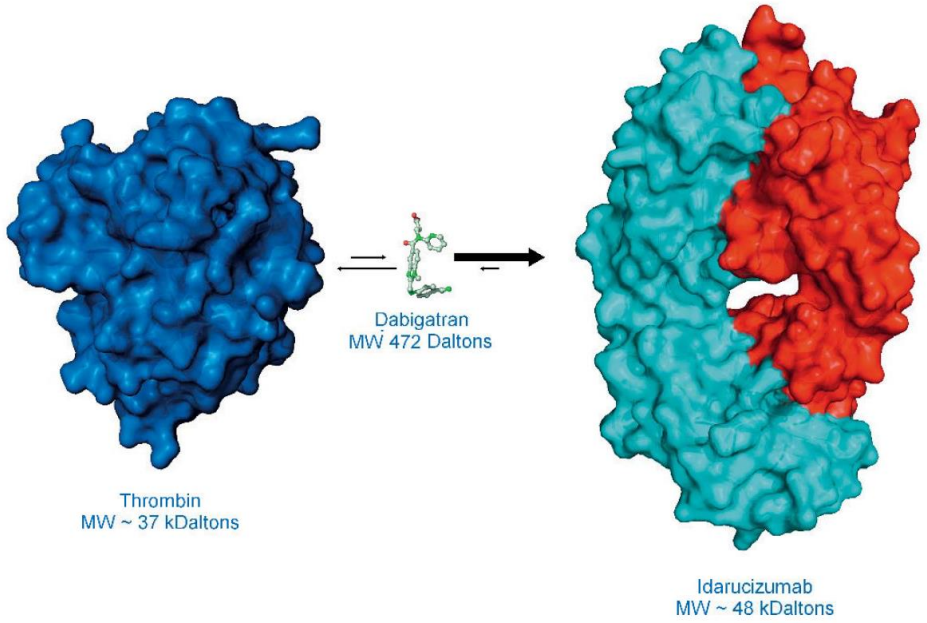
[c] The potential use of Prothrombinex-VF and recombinant factor VIIa (Novoseven) is based on preclinical data.

New Zealand Government

PHARMAC
Pharmaceutical Management Agency

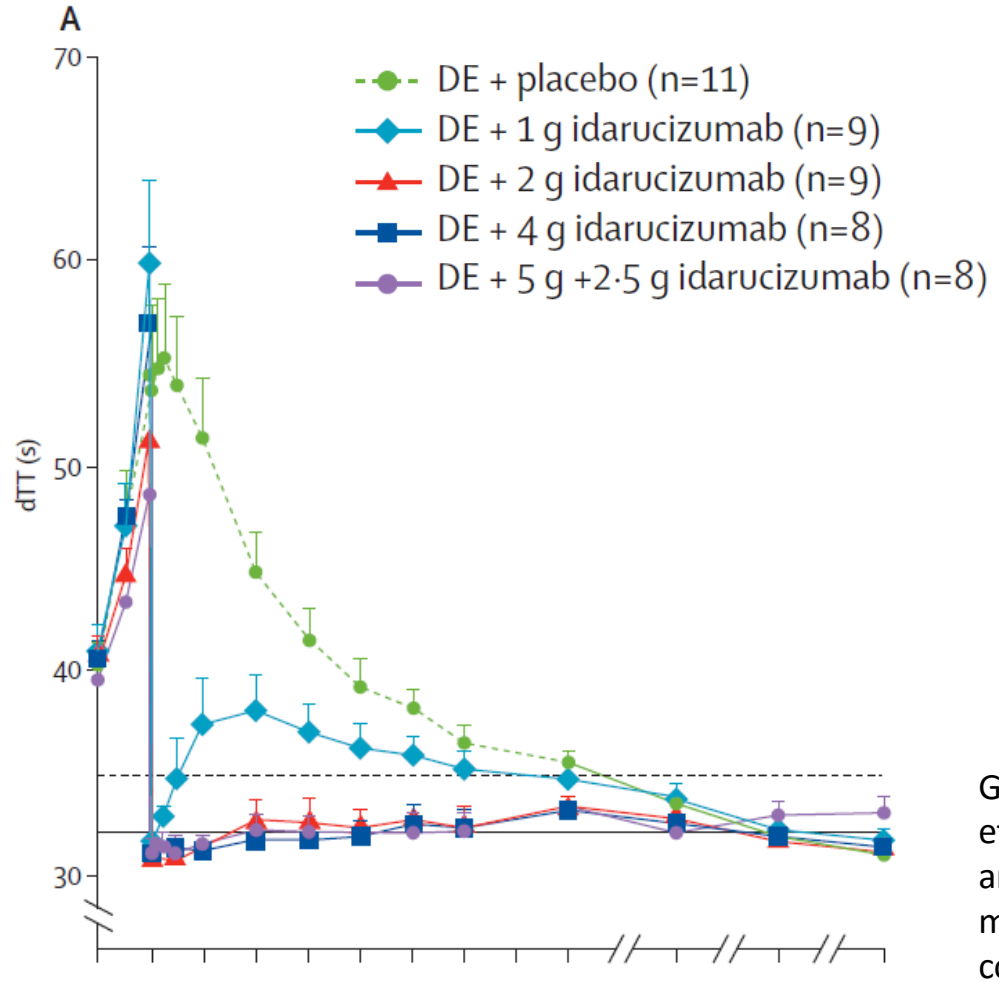
- Local measures
- Fluid replacement
- Platelets if <70 or on aspirin
- Tranexamic acid
- Oral charcoal if <2 hours since dose
- “Consider prothrombinex and repeat if necessary”
- Recombinant FVIIa and repeat if necessary
- Haemodialysis especially if renal failure

Idarucizumab (Praxbind)



- Humanised murine monoclonal antibody fragment
- 3 trials with a total of 283 healthy volunteers

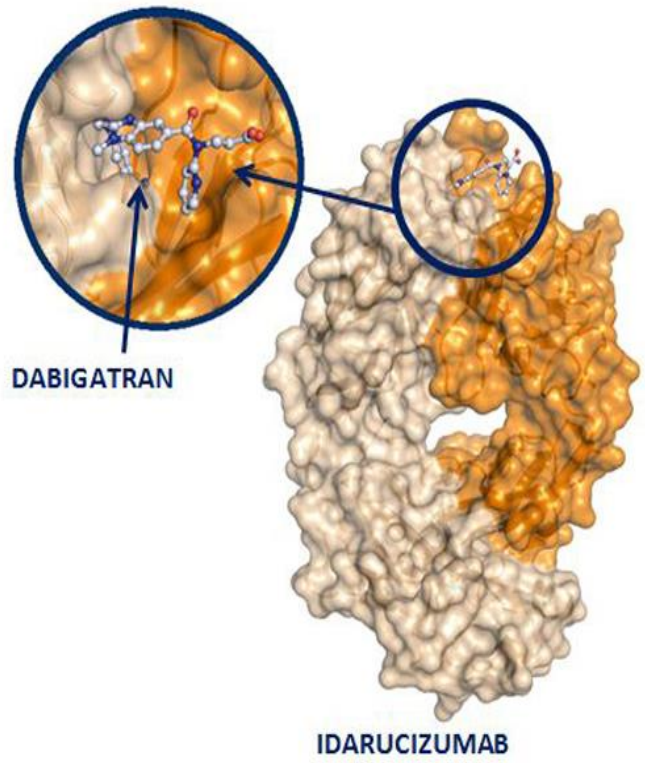
Idarucizumab (Praxbind)



Glund, S., et al. (2015). "Safety, tolerability, and efficacy of idarucizumab for the reversal of the anticoagulant effect of dabigatran in healthy male volunteers: a randomised, placebo-controlled, double-blind phase 1 trial." Lancet.

RE-VERSE AD™

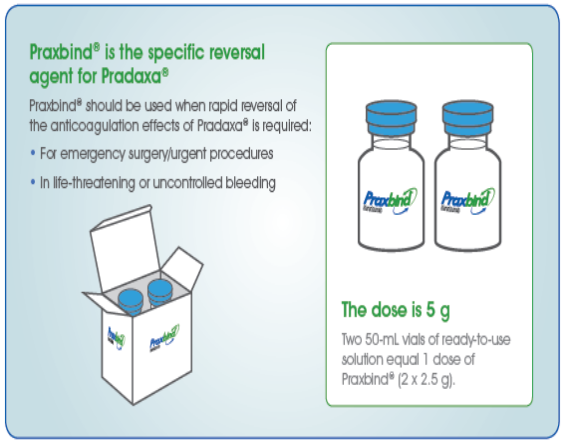
Study of reversal effects of idarucizumab in patients on active dabigatran

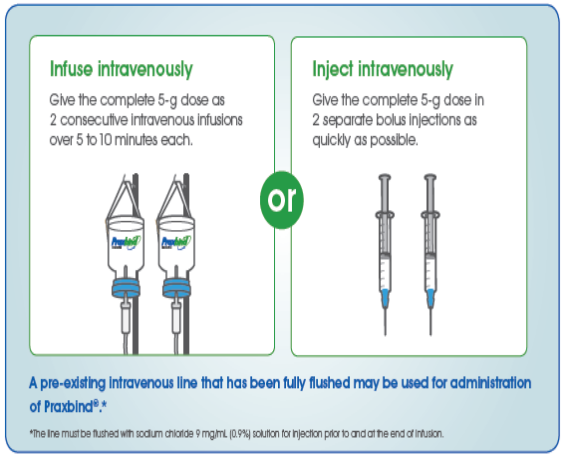


- Accelerated approval by FDA on Oct 16th 2015
- Update on 7th January
  - 423 patients recruited
  - Target 500
  - Closing early March 2016
  - NZ contributed >30% patients
  - MEDSAFE approved
  - Under consideration by PHARMAC
- 3500 US dollars*

http://www.jwatch.org/fw110754/2015/10/20/dabigatran-reversal-agent-price-set.

Praxbind administration





- Two 50 mls vials of ready to use solution equivalent to 2 x 2.5 g
- Give the complete 5 g dose as two consecutive infusions over 5-10 minutes
- Give the complete 5 g dose in two separate bolus injections as quickly as possible
- Flush before and after with 0.9S

http://products.boehringer-ingelheim.com/pradaxa/resources/prescriber-and-patient-guides Accessed 10/2/16

Why choose dabigatran?

Advantages

- Rapid onset and clearance eliminates need for initial LMWH and bridging
- Absence of food interactions
- Greater convenience
- Lower risk of bleeding?
- Cost-effective??

Disadvantages

- Renal impairment
- Limited availability of assays
- Twice daily dosing / compliance*
- Potential for overuse?
- Higher drug costs
- Rapid elimination if poor compliance or switching
- No antidote (until late 2016)

Bauer, K. A. (2013). "Pros and cons of new oral anticoagulants." ASH Education Program Book **2013**(1): 464-470.

The NEW ENGLAND JOURNAL of MEDICINE

CORRESPONDENCE

- If 50% of patients in Ireland switched from warfarin ($3.55) to dabigatran 110mg BD ($239.55) the drug costs would be $45 million [Barry]

- The cost per stroke averted using dabigatran rather than warfarin averages approximately $1.3 million. [Gage]

Patient selection

- Compliance
- Weight >60 kg
- Convenience of monitoring
- Time in therapeutic range <65% or >80%
- Bleeding history
- Cost
- Age
- Frailty
- Drug history
- Anti-platelet therapy
- Renal function
- Dyspepsia
- Warfarin hate factor

Schulman, S. and M. A. Crowther (2012). "How I treat with anticoagulants in 2012: new and old anticoagulants, and when and how to switch." Blood **119**(13): 3016-3023.

Practical considerations

- Estimate the CrCl using the Cockcroft-Gault equation
- Monitor renal function in selected patients
- Do not switch until INR<2
- Start 2 hours before next dose of LMWH
- Capsule cannot be crushed, broken or given by feeding tube
- May exacerbate dyspepsia
- Warn patients that if they miss doses they may not be protected
- Store in original container and not in pill organizer

Stopping prior to surgery or procedure

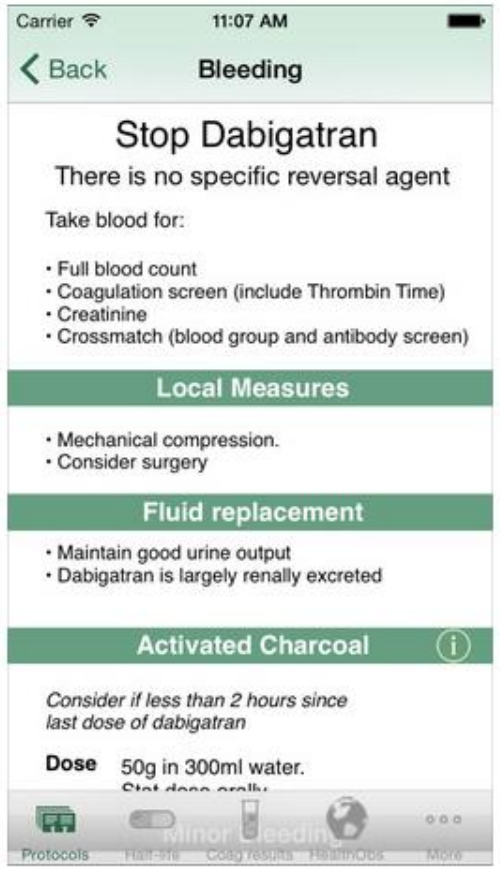
Type of procedure	Minimally invasive	Major invasive
Renal function		
>50 ml/min	1-2 days	3-5 days
<50 ml/min	2-4 days	4-6 days

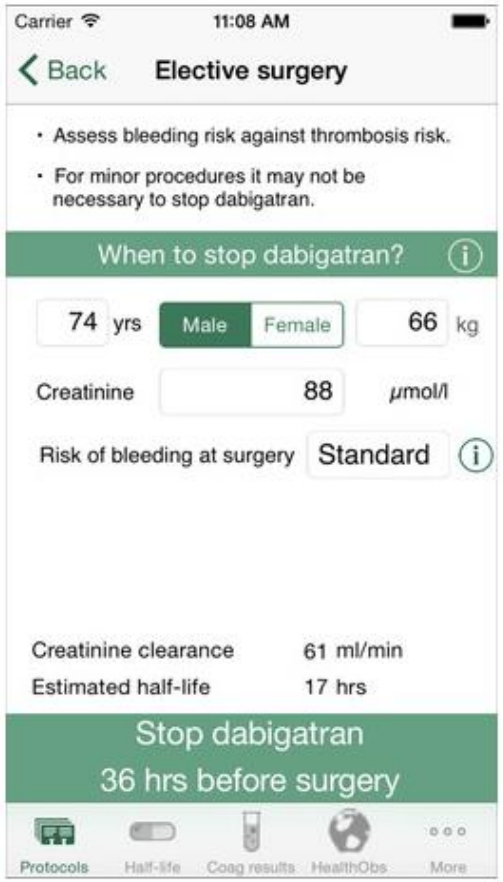
- Elimination half-life 12-14 hours (36-42 hours for warfarin)
- A normal TT excludes the presence of dabigatran

Alberts, M. J., et al. (2012). "Using dabigatran in patients with stroke: a practical guide." Stroke 43(1): 271-279.
Spyropoulos, A. C. and J. D. Douketis (2012). "How I treat anticoagulated patients undergoing surgery." Blood 120(15): 2954

The dabigatran app

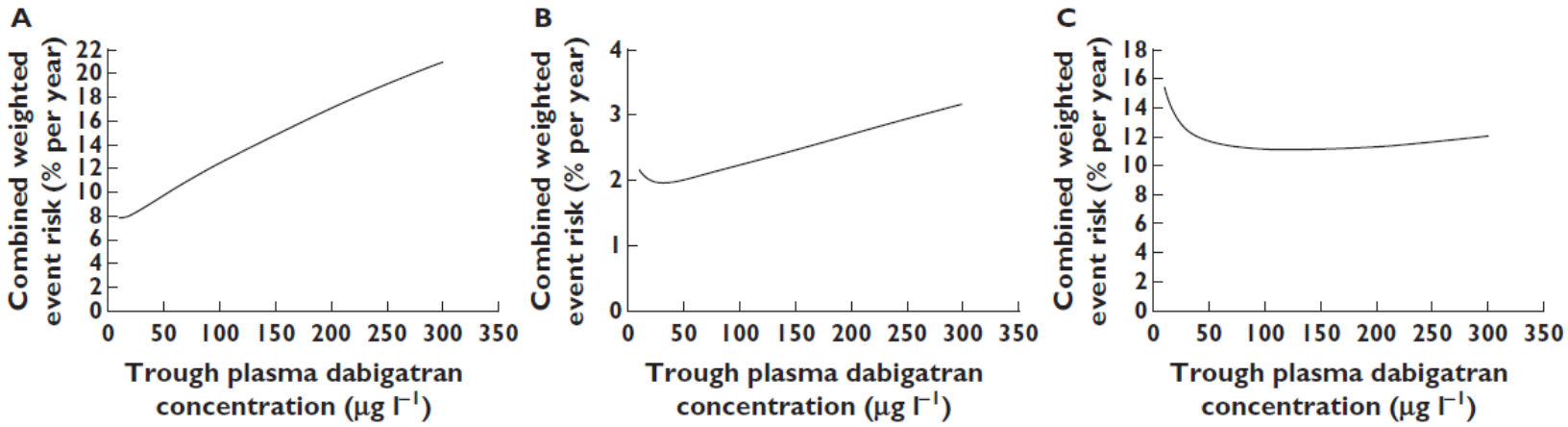
App Store > Medical > Health Obs





Developed by Dr Paul Harper, Palmerston North

Routine dose-adjustment?



CHA_2DS_2-VASc 4, HASBLED 4
Target <10 mcg/l

CHA_2DS_2-VASc 1, HASBLED 0
Target 30 mcg/l

CHA_2DS_2-VASc 6, HASBLED 2
130 mcg/l

Chin, P. K., et al. (2014). "A proposal for dose-adjustment of dabigatran etexilate in atrial fibrillation guided by thrombin time." Br J Clin Pharmacol **78**(3): 599-609.

Question 1

A 46 year old female had an unprovoked DVT in her left leg 6 months ago having previously had a DVT at the age of 41 (treated with 3 months of warfarin).

This time she has been given twice daily dabigatran. As you discuss her problem with her you would be right in saying:

- If she stops taking dabigatran now her risk of a recurrent DVT is the same as that of the general population
- Dabigatran should now be stopped as treatment is only needed for 3 months
- Dabigatran is a vitamin K antagonist so she should avoid vitamin K rich foods such as Brussels sprouts
- There is no known antidote for dabigatran
- Lifelong anticoagulation is recommended

Emma-Jane McDonald - Anticoagulation 1.1

A 46 year old female had an unprovoked DVT (Deep Venous Thrombosis) in her left leg 6 months ago having previously had a DVT at the age of 41 (treated with 3 months of warfarin). This time she has been given twice daily dabigatran. As you discuss her problem with her you would be right in saying:

a) If she stops taking dabigatran now her risk of a recurrent DVT is the same as that of the general...	0.0 %
b) Dabigatran should now be stopped as treatment is only needed for 3 months	0.0 %
c) Dabigatran is a vitamin K antagonist so she should avoid vitamin K rich foods such as Brussels sp...	0.0 %
d) There is no known antidote for dabigatran	0.0 %
e) Lifelong anticoagulation is recommended	0.0 %

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Question 2

- A 75 year old lady is on dabigatran for AF and is due to have an elective knee operation. Her creatinine clearance is 42. Which is the correct management regarding her anticoagulation?

    - No need to stop dabigatran
    - Stop dabigatran 72 hours prior to surgery, bridging not required
    - Stop dabigatran 72 hours prior to surgery and ensure she has bridging therapy with LMWH
    - Stop dabigatran 96 hours prior to surgery, bridging not required
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Question 3

- An 85 year old man is anticoagulated with warfarin for a previous unprovoked massive PE. He has multiple comorbidities and is on several other medications. His INR has been poorly controlled recently and you are concerned about his compliance with treatment and bleeding risk. Which is the most appropriate course of action?

- Stop all anticoagulation
- Stop warfarin and commence dabigatran
- Continue warfarin but lower the target INR
- Continue warfarin but arrange for him to have a blister pack for his medications

Emma-Jane McDonald - Anticoagulation 3.1

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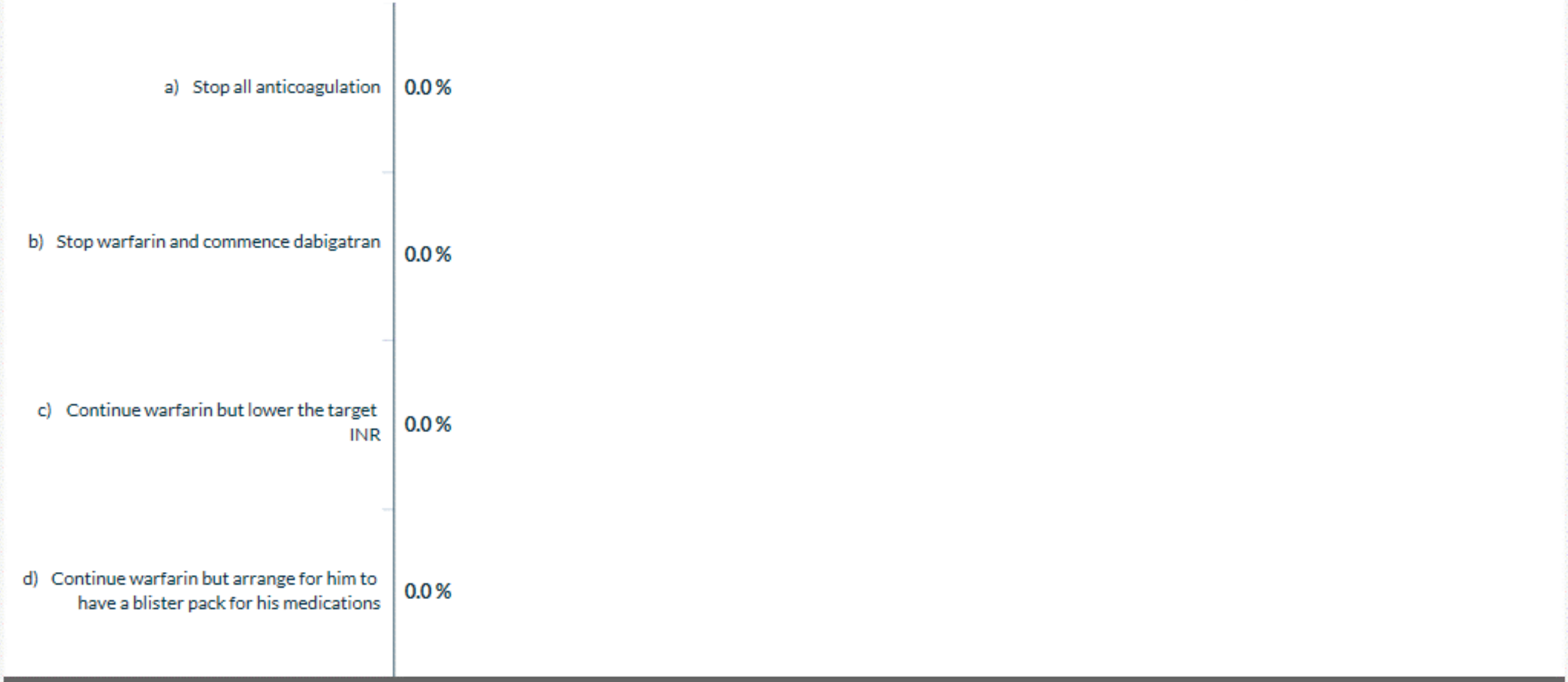

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Question 4

- A 56 year old lady requires anticoagulation for an unprovoked DVT. Which of the following statements is true

- Warfarin is most appropriate, dabigatran is not indicated in upfront treatment of DVT
- Dabigatran is most appropriate, the bleeding risk is lower than with warfarin particularly in younger patients
- Dabigatran is most appropriate, it is cheaper
- Either warfarin or dabigatran could be used

Emma-Jane McDonald - Anticoagulation 4.1

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Question 5

- A 68 year old lady is on dabigatran, she has a history of AF, stroke and has a residual left sided weakness. She presents to you following a head injury and mild confusion. Her eGFR is 55, her last dose of dabigatran was yesterday morning. Which statement is true?

- She will have cleared the dabigatran so coagulation screen is not required
- She is at high risk for a bleed due to the presence of ongoing dabigatran in her system
- TCT (thrombin clotting time) can be checked as part of the routine coagulation screen and is important in assessing the presence of dabigatran
- There is no reversal agent for dabigatran

Emma-Jane McDonald - Anticoagulation 5.1

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Questions

Take home points

- Anticoagulation decisions are subject to physician and patient biases
- The RE-LY study showed that (in the RE-LY study) dabigatran fixed dosing is safe and effective compared to warfarin
- The NZ phase IV data shows that dabigatran fixed dosing is not safe in patients not typical of RE-LY study patients
- The choice of anticoagulant still requires careful balancing of individual risk factors
- The risk-benefit profile of dabigatran is improved with laboratory monitoring
- Reversal agents are effective and are necessary