Antiplatelet & anticoagulant drugs

The dangers and how to manage them

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Anticoagulants and antiplatelet drugs

Do your surgeons have a policy to stop these?

If yes, is this appropriate for all patients?

Remember local anaesthetic cases in your units
Is there a problem?

Let's consider

Consider Warfarin for atrial fibrillation
Atrial Fibrillation

Patients in AF are on long-term warfarin to reduce the incidence of stroke.

These patients need review and a decision made about stopping warfarin prior to surgery.

Need to be aware that there are higher risk subgroups of these patients where the risk of stroke is much greater.

High Risk Group

- a proven atrial thrombus
- an ejection fraction < 40%
- a history of TIAs or previous stroke
- diabetes
- mitral stenosis
- hypertension
- mechanical heart valve
CHAD scoring system

<table>
<thead>
<tr>
<th>CHAD2 item</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congestive heart failure</td>
<td>1</td>
</tr>
<tr>
<td>Hypertension (systolic &gt;160 mmHg)</td>
<td>1</td>
</tr>
<tr>
<td>Age greater than 75 years</td>
<td>1</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1</td>
</tr>
<tr>
<td>Prior cerebral ischaemia</td>
<td>2</td>
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</tbody>
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**Risk factors in the CHAD2 Scoring System**

Assessment of Risk

If we assume a person has the warfarin stopped 4-5 days before a procedure and it takes 3-4 days to have the INR reach a therapeutic level after the procedure.
Assessment of Risk

10,000 people with atrial fibrillation had their warfarin stopped for a procedure.

Low risk patients
1 patient would potentially have a stroke

High risk patients
30 patients would potentially have a stroke
Warfarin for single previous PE/DVT

Patient usually on warfarin for 6 months.

However increasing numbers may continue on warfarin following the outcome of recent trials.

Assessment of risk

QUANTIFYING RISK FOR PATIENTS

Estimated that stopping warfarin in first month after DVT
• associated with a 1% per day chance of recurrence.

During the second and third months after a DVT
• risk of recurrence drops to 0.2% per day.

After the third month, the risk of recurrent DVT
• decreases to 0.04% per day

Pinede L et al. Comparison of 3 and 6 months of oral anticoagulant therapy after a first episode of proximal deep vein thrombosis or pulmonary embolism and comparison of 6 and 12 weeks of therapy after isolated calf deep vein thrombosis. Circulation 2001; 103:2453-60
Assessment of risk

10,000 people with history of single previous DVT had their warfarin stopped for a procedure

If in first month after a DVT
  • about 600 would have a recurrent DVT

If was postponed for a month or two
  • about 120 would have a recurrent DVT

If was postponed for four or more months
  • about 24 would have a recurrent DVT

http://www.warfarinfo.com/procedures.htm
What about high risk patients?

Known hypercoagulable state as documented by a thromboembolic event and one of the following prothrombotic conditions:

- Protein C deficiency
- Protein S deficiency
- Antithrombin III deficiency
- Anticardiolipin antibodies
- Homozygous factor V Leiden mutation
- Antiphospholipid-antibody syndrome
- Prothrombin gene mutation
So should we stop warfarin?

Patients need review and advice about the risks

SURGICAL MANAGEMENT OF THE PRIMARY CARE DENTAL PATIENT ON WARFARIN

Warfarin does not need to be stopped before primary care dental surgical procedures

http://www.dundee.ac.uk/tuith/Static/info/warfarin.pdf
What can we do?

Consider delaying surgery

Consider proceeding without stopping

Consider bridging therapy
Bridging therapy

Not without risks requires discussion with
Haematologist
Surgeon
Patient
Can be achieved in ambulatory surgery

85% of patients can self administer subcutaneous LMWH

## Example technique

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Action Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Days before surgery</td>
<td>Stop warfarin</td>
</tr>
<tr>
<td>3 Days before surgery</td>
<td>Start subcutaneous LMWH e.g. Dalteparin 100 IU/kg 12hrly or 200 IU/kg daily</td>
</tr>
<tr>
<td>1 Day before surgery</td>
<td>If on daily dosing then give 50% dose of LMWH. If on 12hrly dosing then omit evening dose.</td>
</tr>
<tr>
<td>Day of surgery</td>
<td>Check INR on admission, assess postoperative surgical site haemostasis; resume warfarin on evening after surgery if patient drinking fluids and satisfactory haemostasis.</td>
</tr>
<tr>
<td>Days +1 to +3</td>
<td>Resume LMWH if haemostasis secured.</td>
</tr>
<tr>
<td>Days +5 to +6</td>
<td>Stop LMWH when INR within therapeutic range</td>
</tr>
</tbody>
</table>
What about antiplatelet drugs?
Clopidogrel - indications

**Patients with vascular disease who have**

- True aspirin hypersensitivity or are
- Unable to tolerate aspirin despite use of acid suppression

NICE Guideline TA090

**Acute Coronary Syndromes**

Treatment with clopidogrel in combination with low-dose aspirin should be continued for up to 12 months after the most recent acute episode of non-ST-segment-elevation ACS

NICE Guideline TA080

**Patients who have Drug eluting coronary stents**
Why stop this drug?

The British National Formulary (BNF) states ‘clopidogrel should be discontinued 7 days before elective surgery if antiplatelet effect not desirable’
Risks

Risk known but little published evidence to help quantify

Those with drug eluting stents

– should stay on for at least 6 months
– recent evidence suggests keeping them on clopidogrel for longer periods due to incidence of late thrombosis of stents

Also concern for Acute Coronary Syndromes

An initial period of 6-12 weeks after PCI should be defined during which, regardless of the anti-platelet regimen, only life-saving operations should be performed.

For operations that can be scheduled after this initial period, simply stopping all anti-platelet drugs 7-10 days before operation is unwise. The majority of patients with coronary stents may benefit from an unchanged anti-platelet treatment perioperatively.

What do we do?
Does the patient have a drug eluting stent and has it been in situ for less than 6 months?
What do we do?

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If yes

Can the procedure be performed without stopping clopidogrel?
What do we do?

Does the patient have a drug eluting stent and has it been in situ for less than 6 months?

**If yes**

Can the procedure be performed without stopping clopidogrel?

**If No**

Can the procedure wait until at least 6 months post stent insertion?
What do we do?

Does the patient have a drug eluting stent and has it been in situ for less than 6 months?

**If yes**
Can the procedure be performed without stopping the clopidogrel?

**If No**
Can the procedure wait until at least 6 months post stent insertion?

**If No**
Day surgery would not seem to be appropriate under local or general anaesthesia.
What do we do?

Discuss each case with Cardiologist

Discuss length of time clopidogrel stopped

It has been calculated that 3-4 days will allow 50% of platelets to be active
Aspirin - indications

wide range of indications from analgesia, antipyretic, anti-inflammatory and its antiplatelet effects

which see it used in patients with ischaemic heart disease or history of transient ischaemic attacks.

It is also a drug we are increasingly seeing be used in combination with clopidogrel or dipyridamole.
Risks

no published evidence to allow quantification of the risk of stopping aspirin

case reports of cardiovascular and neurological complications following withdrawal of aspirin

Risks

Review of 1358 patients with acute coronary syndrome admitted to French hospital

substantial number had recently stopped aspirin (5.4%)

this group had a higher short term risk of death

Suggested management

each patient requires careful evaluation and the risks considered prior to stopping aspirin

key factors to be considered are
- presence of a drug eluting coronary stent
- history of CVA or TIAs

It may be advisable to check with the patients cardiologist or neurologist before proceeding
Day Surgery assessment for Local Anaesthesia Patients

Will you
  be able to be driven home by private car?  YES  NO
  have someone to take you home?  YES  NO

Do you have any history of allergy to Local Anaesthetic drugs?  YES  NO

Do you suffer from any of the following
  a heart attack within the last 6 months?  YES  NO
  angina (chest pain) that is poorly controlled eg attacks most days?  YES  NO
  diabetes managed with insulin?  YES  NO
  diabetes managed with tablets  YES  NO

It is important that you answer the above questions honestly. If you have had to answer NO to one of them please don't worry as we can usually help.

Information about your current drugs (medication)
  Are you currently taking Methotrexate?  YES  NO
  Are you currently taking Warfarin?  YES  NO
  Are you currently taking Clopidogrel?  YES  NO
  Are you currently taking Aspirin or Ticlopidine?  YES  NO
  Are you currently taking dipyridamidole (Persantin)  YES  NO

A nurse from the Day Surgery Unit may contact you over the next few days to get more details and offer advice. If you are taking any of the above drugs then we may ask you to stop your drugs for a few days prior to coming to hospital for your operation.
Some examples

45 year old lady for bunion surgery under local anaesthesia

No problems had been elicited at outpatients

Found to be on Clopidogrel and her notes were reviewed

5 years previously she had presented to the neurologists following multiple TIAs

Fully investigated and had been stable on clopidogrel
70 year old man for carpal tunnel release under LA

No problems had been elicited at outpatients

Found to be on warfarin

2 episodes of DVT

Antithrombin III deficiency

Discussed with the haematologist and the surgeon
70 year old man for carpal tunnel release under LA

Options

admission as inpatient to provide heparin cover while the warfarin was stopped or

reducing his warfarin therapy and performing the surgery as a day case with an INR in the range of 1.8-2.2.