Managing Anticoagulant and Antiplatelet Drugs Before Dental Procedures

Background

Patients taking warfarin or antiplatelet agents face an increased risk of bleeding due to dental procedures. But stopping these medications may put the patient at risk of a thrombotic event (e.g., DVT, stroke). Therefore, the risk of bleeding must be weighed against the risk and consequences of thrombosis. This article reviews recommendations for managing these medications in patients requiring a dental procedure.

Recommendations and Rationale

Warfarin or aspirin can be continued with local hemostatic measures (see below) provided the INR is less than 4 during most dental procedures.1,2 These include crowns, bridges, root canals, simple extraction of a limited number of teeth, implants, surgical tooth removal, supragingival scaling, and gingival surgery.3,4 These recommendations are based on studies of patients taking warfarin or low-dose aspirin undergoing simple extractions as well as oral surgery.3 There is less data pertaining to bleeding risk with clopidogrel, prasugrel (Effient), or dipyridamole, either alone or with aspirin.1,3,5 The risk of bleeding with dipyridamole/aspirin is similar to that of aspirin alone.5 Clopidogrel and prasugrel should be handled like aspirin monotherapy (i.e., they should not be stopped).3,5 However, patients taking clopidogrel or prasugrel (and by extension ticlopidine) plus aspirin are at higher risk of bleeding.5 Patients taking such combinations could be considered for inpatient management by a dentist or oral surgeon familiar with these patients. Alteration of antiplatelet therapy is not recommended.3,5 At this time, there is no data about the bleeding risk with dabigatran. Life-threatening bleeding after dental surgery is rare.5 The risk of thromboembolism off warfarin for as little as two days may be as high as 0.02% to 1%. The risk of death or disability due to holding warfarin is higher than the risk of death or disability due to continuing it during most dental procedures.2

Managing Bleeding

It is recommended that patients taking warfarin or antiplatelet agents be scheduled early in the day, and early in the week, to facilitate optimal management of both early and late re-bleeding.3 For patients taking warfarin, the INR should be checked within 24 hours before the procedure. But within 72 hours prior is acceptable if the patient’s INR is generally stable.2 For help if the INR is out of range, get our PL Chart, How to Manage High INRs in Warfarin Patients.

Hemostatic measures include use of a gelatin sponge sutured within the socket, vasoconstrictor/anesthetic combinations, and atraumatic surgical techniques.1,3 Having the patient bite down on gauze sponge/pad for 15 to 30 minutes after closure is suggested too.3 Observe for hemostasis before the patient leaves. A thrombin solution-soaked gel sponge can be used for persistent bleeding.6 Instruct patients to:

- Rest for two or three hours.
- Not disturb the clot with the tongue or any object, or by sucking on straws, cigarettes, etc.
- Avoid hot foods/liquids and hard foods for the first day.
- Do not rinse for 24 hours.
- Avoid chewing on the affected side for at least a day or two.
- If bleeding starts, hold pressure with gauze or a slightly moistened tea bag (black tea) for 20 minutes, and call the dentist if it does not stop.
- Avoid NSAIDs for at least 24 hours post procedure.

In addition to these general measures, aminocaproic acid solutions have been recommended for use in warfarin-treated patients. Aminocaproic acid solution is easier to make and
is less expensive than tranexamic acid solution.\textsuperscript{8} In general, tranexamic acid mouthwash is not recommended. It is expensive, difficult to obtain, and has unproven additive benefit when used with other local hemostatic measures including suturing.\textsuperscript{2}

In one protocol, patients are instructed to hold 10 mL of an aminocaproic acid solution for two minutes in the affected area just before the procedure. After the procedure, they are instructed to repeat this every one to two hours until the solution is gone. Make sure that patients hold the solution in the area rather than swish it around like mouthwash, which can disturb the clot. An aminocaproic acid solution can be made by diluting a 5 gram vial with sterile water for injection to a total volume of 100 mL.\textsuperscript{8} (Aminocaproic acid is not available in Canada.)

**Stopping NSAIDs**

NSAIDs, including COX-2 inhibitors, have reversible antiplatelet effects. If the risk of stopping the NSAID isn’t significant, then stopping them before the procedure can lower bleeding risk. To ensure absence of antiplatelet effect, NSAIDs should be discontinued five half-lives before the procedure. The following chart shows how long before the procedure each NSAID should be discontinued.\textsuperscript{9}

<table>
<thead>
<tr>
<th>NSAID</th>
<th>Time to hold before procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diclofenac (e.g., Voltaren), Ibuprofen (e.g., Motrin), Indomethacin (e.g., Indocin), Ketoprofen</td>
<td>One day before procedure</td>
</tr>
<tr>
<td>Celecoxib (Celebrex), Diflunisal, Naproxen (e.g., Naprosyn), Sulindac (e.g., Clinoril)</td>
<td>Two to three days before procedure</td>
</tr>
<tr>
<td>Meloxicam (e.g., Mobic [U.S.], Mobicox [Canada]), Nabumetone, Piroxicam (e.g., Feldene)</td>
<td>Ten days before procedure</td>
</tr>
</tbody>
</table>

**Conclusion**

Current literature does not address stopping cilostazol (Pletal [U.S. only]), heparins, or dabigatran (Pradaxa; Pradax [Canada]) before dental procedures. But based on what is known about similar agents, consider continuing them, assuming they are necessary. Patients taking antiplatelet combinations could be considered for inpatient management.

Before a patient taking warfarin has a dental procedure, check their INR to ensure it is within the therapeutic range. Discontinue any unneeded antiplatelet agents (e.g., NSAIDs). And avoid prescribing antibiotics that can increase warfarin effect (e.g., erythromycin, clarithromycin, metronidazole).\textsuperscript{3} Patients at high risk of thromboembolism requiring major oral surgery should be considered for inpatient management [Evidence level C; expert opinion].\textsuperscript{4}

**Users of this PL Detail-Document are cautioned to use their own professional judgment and consult any other necessary or appropriate sources prior to making clinical judgments based on the content of this document. Our editors have researched the information with input from experts, government agencies, and national organizations. Information and internet links in this article were current as of the date of publication.**

**Levels of Evidence**

In accordance with the trend towards Evidence-Based Medicine, we are citing the LEVEL OF EVIDENCE for the statements we publish.

<table>
<thead>
<tr>
<th>Level</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>High-quality randomized controlled trial (RCT) High-quality meta-analysis (quantitative systematic review)</td>
</tr>
<tr>
<td>B</td>
<td>Nonrandomized clinical trial Nonquantitative systematic review Lower quality RCT Clinical cohort study Case-control study Historical control Epidemiologic study</td>
</tr>
<tr>
<td>C</td>
<td>Consensus Expert opinion</td>
</tr>
<tr>
<td>D</td>
<td>Anecdotal evidence In vitro or animal study</td>
</tr>
</tbody>
</table>


**Project Leader in preparation of this PL Detail-Document: Melanie Cupp, Pharm.D., BCPS**
References


