

**Interruption of Warfarin Anticoagulation for Dental Surgery**

To the Editor:

When performing dental surgery in patients receiving warfarin for anticoagulation, clinicians must weigh the risk of bleeding complications in continuous anticoagulation vs that of thromboembolic complications with anticoagulation interruption. Multiple studies have shown that dental surgery (including extractions) can be performed safely at therapeutic international normalized ratio (INR) levels (INR ≤ 3.5) with local hemostatic measures. Of the few cases needing more than local hemostatic measures (eg, vitamin K injection and/or fresh frozen plasma), most involved higher than therapeutic INR levels, and none was fatal. On the other hand, there have been many documented cases of serious thromboembolic complications (including deaths) after anticoagulation interruption for medical/dental procedures.

The American College of Chest Physicians issued statements in 2001, 2004, and 2008 recommending continuing anticoagulation for dental procedures. In a supplement to CHEST (February 2012), the American College of Chest Physicians statement by Douketis et al provided two options for minor dental procedures (including extractions and root canal treatments): continuing warfarin with coadministration of an oral prohemostatic agent or stopping warfarin 2 to 3 days before the procedure. The latter option was described as partial interruption of anticoagulant therapy, resulting in an INR of 1.6 to 1.9 on the day of the procedure. However, INR levels resulting from warfarin dose alterations can vary widely, and it may take a few days to get back to therapeutic INR levels after restarting warfarin.

Four prospective studies were cited in support of the option for partial interruption. In each of the four studies cited, dental surgery in patients who were taking anticoagulants was compared with dental surgery in patients whose anticoagulation was reduced or interrupted. Although there were no embolic complications in any of these patients, there were also no bleeding complications requiring more than local measures for hemostasis. The incidence of bleeding was the same in both the anticoagulation continuation and interruption groups in each study, and the authors of each of the four studies concluded that anticoagulation should not be interrupted for dental surgery.

In summary, local hemostatic measures are almost always sufficient for dental surgery in patients on warfarin, with no long-term sequelae. In contrast, thromboembolic events occurring in patients with warfarin interruption are much more likely to result in permanent disability or death. We, therefore, respectfully suggest that the option for alteration of warfarin therapy should be eliminated for minor dental procedures (including extractions) and reserved only for the most invasive oral surgical procedures in which a significant amount of blood loss is anticipated (eg, orthognathic surgery).

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**REFERENCES**


**Response**

To the Editor:

We thank Dr Wahl et al for their comments expressing concern about a recommendation in our article in the Antithrombotic Therapy and Prevention of Thrombosis, *9th* edition: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (AT9) (February 2012) on how to manage patients receiving vitamin K antagonists (VKAs) who need a minor dental procedure. The recommendation suggests that such patients “continue VKAs with co-administration of an oral prohemostatic agent or stopping VKAs 2 to 3 days before the procedure instead of alternative strategies (Grade 2C).” The authors request the removal of the second management option stopping VKAs 2 to 3 days before the procedure (which was an additional recommendation compared with previous guideline editions) because such a recommendation may expose patients to undue risks of thromboembolic complications.

Some background may help to reconcile the expressed concerns with the recommendations provided. Compared with previous guideline editions, the AT9 iteration is anchored on the more rigorous and explicit guideline methodology of the GRADE (Grading of Recommendations Assessment, Development and Evaluation) Working Group. In translating evidence into clinical practice recommendations, the GRADE approach involves a systematic literature