

Should we test the prothrombin time in anticoagulated epistaxis patients?

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ABSTRACT

Epistaxis is one of the most frequent emergencies in rhinology. Patients using anticoagulative medication are at increased risk for epistaxis. We evaluated the prothrombin time and the international normalized ratio (INR) in anticoagulated epistaxis patients. Patients suffering from epistaxis were prospectively included in a database and results from prothrombin testing were analyzed in the context of anticoagulation. One hundred sixteen of 591 epistaxis cases were identified to be on oral anticoagulation. The INR was found to be above therapeutic levels in 19 (16%) of these cases. We strongly recommend prothrombin time and INR testing in all epistaxis patients taking any sort of vitamin K antagonists.

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To the Editor

Epistaxis is one of the most common emergencies in rhinology worldwide. Antiaggregant and anticoagulative treatments are known to be risk factors for epistaxis. Because of a lack in consequences, it is not meaningful to measure thrombocyte function in patients on acetylsalicylic acid (ASA). Although general clotting screening is not useful in all epistaxis patients,¹ prothrombin time (Quick) and international normalized ratio (INR) measurements are easy and inexpensive tests to evaluate the level of anticoagulation in patients on vitamin K antagonists such as Warfarin and other coumarins (Fig. 1). Furthermore, treatment is easily adjustable and excessive anticoagulation can be either corrected by dose tapering, the administration of vitamin K, or by injection of fresh frozen plasma and prothrombin complex clotting factors in severe cases.² Warfarin therapy does not need to be generally discontinued in epistaxis patients, when anticoagulation is suitably controlled.³

It was the aim of our investigation to find out in how many cases INR is found to be out of its upper target range and needs to be corrected by either dose adjustment or administration of antagonists. In the period between March 2007 and April 2008 all patients pre-

senting with epistaxis at the ear, nose, and throat department of the University Hospital of Zurich were enrolled in a prospective data collection evaluating ASA impact on epistaxis.⁴ The local ethical committee approved the study. The exact treatments of this group of epistaxis patients are described elsewhere.⁵ Blood testing including INR was done whenever feasible. Five hundred ninety-one records were electronically stored. The INR was tested in 541 cases (92%). One hundred sixteen cases (20%) were identified to be anticoagulated, with only seven patients (1%) also taking ASA. Because most indications of anticoagulants have a target INR of 2–3.5, we decided to analyze how many patients were overly anticoagulated. In 19 cases (18 patients) the INR was ≥ 3.5 with a median of 4.3 and a range of 3.5–8. Anterior bleeding was found in 14 (74%) of cases with an INR ≥ 3.5 , whereas bleeding was localized anteriorly in 63 (70%) of the cases with an INR < 3.5 , with no significant differences ($p = 9.8$). Although clotting factors were not required, the adjustment of the dosage was always indicated and in severe cases vitamin K administration was performed. Because it is impossible to gather an adequate control group in the hospital setting to compare our population to an anticoagulated nonepistaxis cohort we are only able to compare it with published Swiss data on self-management of anticoagulation.⁶ Fritschi *et al.* found their patients to be in the target range (INR, 2–4.5) in 91.4%. In our group this was only the case in 68% (estimation from published data,⁶ $p < 0.001$).

To our knowledge, this is the first investigation of a large epistaxis cohort concentrating on the indication of clotting analyses in anticoagulated patients.

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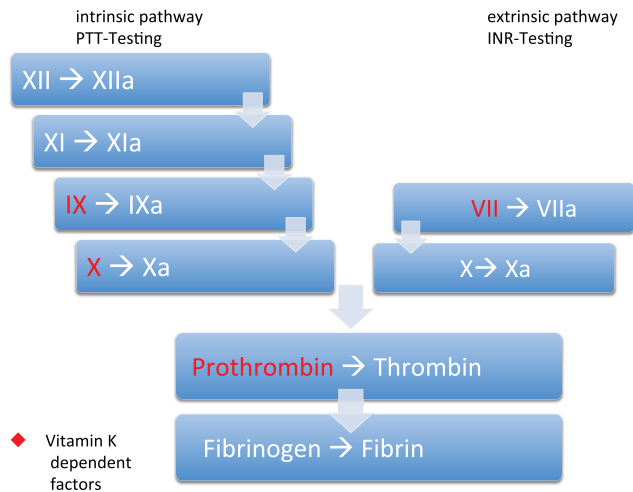


Figure 1. Simplified clotting cascade and the influence of vitamin K antagonists.

Our findings strongly support prothrombin time testing, because an uncontrolled INR was found in >16% of anticoagulated epistaxis patients. Although it is impossible to tell whether overanticoagulation was the cause of epistaxis, it requires medical action in any

case. In view of potential other bleeding risks, anticoagulation should be kept in target ranges.

In conclusion, we strongly recommend prothrombin time and INR testing in all epistaxis patients taking any vitamin K antagonists in order to take appropriate action in those who are not within optimal target value ranges.

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