

Letters to the Editor

Warfarin and beetroot

I was interested to read your article 'How to manage warfarin therapy' (Aust Prescr 2015;38:44-8). In the article and subsequent online quiz, it mentions beetroot as being one of the foods that can affect INR, which I found rather unusual. After having worked as a senior pharmacist on a cardiothoracic ward for a number of years, I have counselled countless patients on warfarin and factors that can influence INR and I have never heard of beetroot being one of them. After doing some of my own research, I came across the vitamin K contents of beetroot, which was listed to be approximately 0.3 micrograms per 100 g in comparison with spinach 540 micrograms per 100 g.


Consequently, I believe that consuming beetroot while taking warfarin would have an insignificant effect on INR compared to other foods. I also noted in the quiz that vitamin C was listed as not affecting INR and, although there is limited evidence, there are a number of case reports of vitamin C at high doses affecting INR. Vitamin C is also listed in the Western Australian Department of Health's Living with Warfarin: Information for Patients,¹ so I believe that it is worth mentioning as something that could possibly affect INR.

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REFERENCE

1. WA Medication Safety Group. Living with warfarin: information for patients. Perth: Western Australian Department of Health; 2015. www.watag.org.au/wamsg/docs/Living_with_Warfarin.pdf [cited 2015 Sep 7]

Philip A Tideman, Rosy Tirimacco, Andrew St John and Gregory W Roberts, authors of the article, comment:

 Louise Vanpraag rightly points out that the beetroot bulb is a negligible source of vitamin K. It was our oversight in not explicitly naming the beetroot leaves as the rich source of vitamin K rather than the bulb.

While there have been two separate case reports of a possible interaction between high doses of vitamin C and warfarin causing an elevated INR, three separate crossover trials using daily vitamin C doses of 1–10 g for periods of one week to six months have failed to reveal an interaction.

Warfarin brands

Although a comprehensive guide to managing warfarin, the article in the April 2015 issue (Aust Prescr 2015;38:44-8) did not mention the problem of brand confusion with warfarin. Transition of care, such as hospital admission, is a time when warfarin management may be compromised. In Australia we have two brands – Coumadin and Marevan. Both are manufactured by Aspen Pharmaceuticals, and are available in different strengths and tablet colours. Recently reported incidents involving warfarin brand confusion at our hospital resulted in dose omissions due to Marevan not being available on the ward and inadvertent switching from Marevan to Coumadin. Although no patient harm resulted, time was spent in sourcing the 'right' brand and managing the incidents.

The Pharmaceutical Benefits Scheme notes that the brands have not been shown to be bioequivalent and should not be interchanged.¹ However, a systematic review comparing the bioequivalence of six international warfarin brands found that switching brands was relatively safe.² In 44 years of reporting adverse drug reactions in Australia, only three reports, all from 1977, implicate brand switching.³

The manufacturer has previously been approached to phase out one brand, with a recommendation that Coumadin be primarily used.⁴ We call for either bioequivalence testing of Coumadin and Marevan by the manufacturer or, in the interests of medication safety, for only one brand of warfarin to be available.

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2. Dentali F, Donadini MP, Clark N, Crowther MA, Garcia D, Hylek E, et al. Brand name versus generic warfarin: a systematic review of the literature. *Pharmacotherapy* 2011;31:386-93.
3. Therapeutic Goods Administration. Database of Adverse Event Notifications (DAEN). Canberra: Department of Health; 2013. www.tga.gov.au/database-adverse-event-notifications-daen [cited 2015 Sep 7]
4. Dooley M. Recommendations for warfarin in Victorian public hospitals [letter]. *Aust Prescr* 2003;26:27-9.



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