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link to Reader's Digest article [1]

blood [2] clotting [3] heart [4] drugs [5]



Every 6 seconds somebody dies from a blood clot; warfarin, and other newer drugs, can help to stop the clot.

Dead cows and drug discovery

Warfarin emerged as a clot-stopping drug more than 60 years ago, its discovery prompted by a group of Canadian cows bleeding to death after simple procedures such as dehorning or castration. Consumption of mouldy hay, containing an ingredient similar to warfarin, was found to be the cause. The name warfarin is in honour of the Wisconsin Alumni Research Foundation [6], who patented the drug.

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Whilst fatal in overdose (as the cows proved), careful administration of warfarin with close monitoring of blood thickness, can prevent harmful clot formation. If clots form in an artery, a heart attack or stroke can occur; in a vein, a clot can cut off the blood supply to the legs or the lungs.

Wonders of warfarin

Clots are more likely in those suffering from atrial fibrillation [7] (a common heart rhythm disorder) and so warfarin is often prescribed; in those with an artificial heart valve, warfarin can prevent clots from sticking to the valve and stopping it from working.

Dr Robert Hart, from the University of Texas, studied results from clinical trials in which almost 3000 patients with atrial fibrillation did or did not receive warfarin therapy. Warfarin was shown to reduce stroke by 64% and death by 25% - impressive indeed.

Each year, 25,000 people in the UK die from a blood clot in the lungs [8] (a larger number of deaths than are

caused by breast cancer, AIDS and road traffic accidents combined). Warfarin can be prescribed to treat and prevent such clots.

Each year, 25,000 people in the UK die from a blood clot in the lungs [8].

Worries with warfarin

Dolores Huss, an 89-year-old grandmother, died from internal bleeding caused when warfarin interacted with an antibiotic she had been prescribed; 85-year-old Loren Peters awoke to severe bruising and bleeding gums caused by warfarin overdose.

It's true that too much warfarin can lead to bleeding; too little can allow blood clots. Even if you take the prescribed dose, your genetic make-up, diet and other medications can affect your body's response to warfarin. The good news is that doctors keep a close eye on the thickness of your blood by taking blood samples; your warfarin dosage will be tailored to your individual need.

Despite rumours, most foods can be tolerated with warfarin. Cranberry juice [9] may be best avoided, but other foods with a bad reputation when it comes to warfarin (such as salads, vegetables and alcohol) can all be taken as long as you don't suddenly change the amount you are consuming.

Alternatives to warfarin

After cows, scientists turned their attention to leeches and ticks: what makes these annoying little creatures such good bloodsuckers [10]? Analysis of their saliva (now there's an attractive job) led to the production of newer clot-stopping drugs such as rivaroxaban [11] and dabigatran, which are easy to take (a fixed dose, with no need for blood tests to monitor your blood thickness) and seem to interact less with foods and medicines.

Draculin [12] (in honour of Dracula no less) from vampire bat saliva has been tested as an anticoagulant. Bedbugs, mosquitoes and fleas also have a taste for blood – what secrets might their saliva hold?

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[1] http://www.readersdigest.co.uk/health/health-centre/everything-you-need-know-about-warfarin-and-its-alternatives [2] https://www.helencowan.co.uk/../tags/blood [3] https://www.helencowan.co.uk/../tags/clotting [4] https://www.helencowan.co.uk/../tags/heart [5] https://www.helencowan.co.uk/../tags/drugs [6] http://www.warf.org/about-us/about-us.cmsx [7] https://www.bhf.org.uk/heart-health/conditions/atrial-fibrillation [8] http://www.nhs.uk/conditions/pulmonary-embolism/Pages/Introduction.aspx [9] http://www.mayoclinic.org/diseases-conditions/thrombophlebitis/expert-answers/warfarin/faq-20058443 [10] http://www.medpagetoday.com/cardiology/strokes/40238 [11] https://www.nice.org.uk/guidance/ta256?unlid= [12] http://blogs.discovermagazine.com/80beats/2011/05/11/anti-stroke-drug-inspired-by-vampire-bats-enter-phase-ii-trials/#.WDg0gvmLSM8