A 55-year-old woman with DVTs on a motoring holiday

Commentary by **ALEXANDER S. GALLUS** MB BS, FRCPA, FRACP, FRCP(C)

Should this patient continue anticoagulant therapy as she travels through remote regions of Australia?

Case scenario

A 55-year-old woman was spending her first year in retirement travelling around Australia in a campervan. After a hot dry spell in the central region early in the trip she developed DVTs in both legs and was appropriately treated with enoxaparin, then warfarin. She was initially told that she could cease warfarin after six months. However, the results of clotting tests showed that she was heterozygous for factor V Leiden polymorphism and anticardiolipin antibody positive. Should she continue with warfarin for the final four months of her trip, considering that she will be travelling through remote regions where it may be difficult to get regular INR estimations?

Commentary

This case raises important practical issues regarding treatment for venous thrombosis. These include:

- the choice, administration and optimal duration of anticoagulant therapy
- travel, among other predisposing factors
- the value of testing for 'thrombophilia'.

Anticoagulant therapy

Standard initial treatment for venous thrombosis now consists of a low molecular weight heparin – enoxaparin (Clexane) or dalteparin (Fragmin) – given subcutaneously once or twice daily with warfarin (Coumadin, Marevan) for a minimum of four or five days and until the INR exceeds 2.0 for two or more days. Warfarin is then continued alone. Most often, treatment is now given out of hospital. The dose of low molecular weight heparin is determined by weight, but it should be reduced in people with renal impairment (i.e. a derived creatinine clearance below 30 mL/min) because these drugs are mostly cleared by the kidney. The target INR during warfarin therapy for venous thromboembolism is 2.5 (range, 2.0 to 3.0). Most people achieve a stable maintenance warfarin dose; after that it is unusual to need INR testing more often than once in three to six weeks.

The duration of treatment needed to minimise recurrence is largely determined by the extent of thrombosis, predisposing factors, and whether it was a first event. Standard treatment duration after a first thrombosis provoked by a transient cause such as injury or surgery is six to 12 weeks if limited to the calf, and six months if the thrombosis extends into proximal (popliteal, thigh or pelvic) veins and/or after embolism. Treatment should continue for at least six months after an unprovoked (idiopathic) thromboembolism and for longer if there is an ongoing cause (such as active malignancy) or previous thrombosis. These recommendations derive from randomised comparisons, but management needs to be varied if there is a high risk of bleeding.

The initial presentation with bilateral thrombosis in this woman's case perhaps raises the likelihood of an underlying cause like malignancy or antiphospholipid syndrome. However, it may simply reflect delayed therapy (in which case it probably does not alter management).

Predisposing factors

We are not told if this woman's bilateral thrombosis affected her proximal veins. If we assume it did then the advice given to continue warfarin therapy for six months was sensible, although aspects of her presentation suggest that a longer duration might be appropriate. Prolonged travel is a weak predisposing factor for clinically significant venous thromboembolism – it usually affects people who are prone to thrombosis for other reasons (e.g. previous thrombosis, old age, obesity, recent surgery or injury, active malignancy, oral contraception and perhaps hormone replacement therapy). Smoking, oddly enough, does not seem to predispose patients to thrombosis (there are far better reasons to avoid cigarettes), and dehydration would need to be severe. Only prolonged travel by air has formally been shown to provoke venous thromboembolism, and motoring in a campervan is unlikely to cause the extended periods of immobility that seem to provide the trigger required for travel-associated thrombosis.

With regard to treatment duration, this woman's thrombosis is therefore best considered to be 'idiopathic' unless investigations demonstrate an underlying cause other than motoring for an extended period.

Thrombophilia testing

Thrombophilia testing is best reserved for younger people who have unprovoked, recurrent or familial thrombosis. Heterozygosity for factor V Leiden should not alter treatment duration. However, anticardiolipin antibodies may indicate a need for prolonged anticoagulant therapy if strongly positive and confirmed by repeat testing. MT

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DECLARATION OF INTEREST: Professor Gallus has received honoraria when consulting on antithrombotic therapy for industry.