Effective screening of pathology tests controls costs: thrombophilia testing

In patients aged less than 45 with a true idiopathic lower limb deep vein thrombosis (DVT), the chance of finding an inherited thrombophilia is less than 50%, but for pulmonary embolism this falls to less than 10%. The chances of finding a prothrombotic state are much lower if the patient is older or the DVT provoked. As detecting a prothrombotic state should not alter treatment decisions, some investigators have cautioned against undertaking these studies in patients with venous thromboembolism.¹ Most UK haematologists agree that prothrombotic tests should be targeted at patients aged less than 50 with unexpected or recurrent venous thrombosis; and these tests are undertaken by most district haematology departments. However, the tests are expensive, with a thrombophilia screen which includes APC sensitivity (for factor V Leiden), antithrombin III, protein C, protein S, lupus screen, and anticardiolipin antibodies, costing £70 per patient. Therefore in our department all such requests are considered by a consultant haematologist: and assays only undertaken in patients age less than 50 who have had a proven venous thrombotic event, or in first degree relatives of an individual with a proven specific prothrombotic state.

We compared the frequency of thrombophilia testing in district hospitals across the West Midlands, a large English region that contains some 20 hospitals serving a population of five million. Each haematology department replied to a questionnaire about the number of thrombophilia assays carried out over the previous year (the numerator) as well as the number of blood counts to act as the denominator. The hospital which contains the regional referral centre for thrombotic disease was not included, and neither did we enquire about DNA testing for factor V Leiden or factor II gene mutation. Each haematology department was also asked whether or not they vetted requests, although they were not asked to specify

Figure 1 Number of thrombotic tests plotted against the number of full blood counts during 2003. Each plot represents a single hospital's workload.

who undertook this screening or what rules were in place. Figure 1 shows that vetting thrombophilia tests does control the number of tests done, although one department may not be vetting requests effectively (A in the figure). Our Department (B) spent £12 000 on these tests last year—but if the tests had been at the regional average we would have spent £31 000 and if at the level undertaken by hospital (C) the tests would have cost £65 000.

In the early 21st century there is an ever increasing repertoire of pathology tests, but these should be used appropriately. The technique we have described allowed us to identify a marked disparity in thrombophilia screening in different hospitals, which must reflect differences in local practice rather

than in the patient population. This strategy could be applied to study any expensive pathological or radiological test in order to identify hospitals with widely divergent practice. Providers of the service might not be keen to reply to a questionnaire that would show their department in a poor light, but laboratories have a responsibility to ensure that expensive tests are not undertaken without good reason. The minimum standard should be that expensive tests must be justified, and the request should be screened by an experienced pathologist who has sufficient seniority to reject requests which are not going to help manage the patient or their family. As clinicians have different thresholds for ordering tests, this may require robust feedback and education about what tests are appropriate in different situations. Purchasers of diagnostic services have a responsibility to ensure their local service is providing value for money and that there are mechanisms to check expensive tests are not undertaken excessively.

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Reference

- 1 Baglin T, Luddington R, Brown K, *et al*. Incidence of recurrent thromboembolism in relation to clinical and thrombophilic risk factors: a prospective cohort study. *Lancet* 2003;**363**:523–6.

CORRECTION

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Low SU, Nicol A. Talc induced pulmonary granulomatosis. *J Clin Pathol* 2006;**59**:223. The initials of the first author were incorrect. The correct name is Low SE.