

Commentary

We have not made a comparison of costs of ^{125}I -albumin and ^{51}Cr between U.S. and French sources, so cannot speak to the surprising differences that Professor Najean observes. However, we have made careful analysis of our own costs for these reagents, as well as for technologists' time and costs for their services, and we stand by the figures given in our article. It should be pointed out that our cost estimates also include overhead expenses and personnel benefits prorated for the amount of technologist time. We do not know how these may be different from costs incurred in France, nor whether Professor Najean has considered all the costs incurred in performing these tests. There is no doubt, however, that his personnel would spend less time doing blood volume studies if he were to eliminate the redundant administration of two radionuclides per case in the "double blood volume" procedure.

Thirty blood volume studies per month, the number performed in Professor Najean's laboratory, is similar to the number that we have performed in our laboratories: at maximum, we were doing 400 "double blood volume studies" per year, slightly more than 30 per month. We became aware that this was an inappropriately large number of blood volume studies. (Mayo Clinic has more than 200,000 patients registered annually.) For many cases, the indications were certainly questionable. By careful screening of cases, we have largely eliminated inappropriate blood volume tests, and reduced the number of blood volume tests performed in our laboratories to 1-2 per week rather than 1-2 per day. We have estimated that, with the plethora of tests commonly ordered for patients thought to be polycythemic (blood volume studies, computed tomographic scans, spirometry, erythropoietin assay, blood gas studies, consultation with a specialist in hematology, etc.), the total cost to the patient (or third party payer) per case often exceeds \$4,000. Diagnostic tests and consultations may be less expensive in France.

The elimination of inappropriate testing and reduction of unnecessary costs of medical care are

worthwhile objectives. We have achieved more than 90% reduction in costs of diagnostic evaluations for "polycythemia," mostly as a result of careful monitoring of indications. Despite reduction in the number of blood volume studies performed, and in other expensive diagnostic tests, the number of confirmed cases of polycythemia vera at Mayo Clinic each year continues gradually to increase. We find no correlation whatever between the number of blood volume studies performed per year and the number of diagnoses of polycythemia vera that have been confirmed. There is no indication that any cases have been missed because of fewer blood volume studies being done (nor as a result of our eliminating the redundant use of two radionuclides where one alone suffices). More careful selection of cases for blood volume studies has simply resulted in a closer concordance between the number of blood volume studies performed and the number of cases of polycythemia vera diagnosed.

Professor Najean misquotes our estimate cost for ^{51}Cr : we had stated a cost of \$223, not \$406 as he asserts. This was based on our 1993 rate of purchase of radiochromate, 4.95 mCi per 9 weeks, a rate nearly identical with that of Professor Najean. However, we purchased a new 1.1 mCi vial every two weeks. A call to our source of radiochromate indicates that in this volume and at this frequency of purchase, we would today pay \$880 per mCi, or \$4,400 per 5 mCi, and if we were to do 18 blood volume studies in 9 weeks, the radiochromate would cost \$240 per case, a little more than we stated in our article. If we were to do 60 blood volume studies during 9 weeks, as Professor Najean does, it would cost \$67 per case. Professor Najean's lower cost reflects an economy of scale. But few laboratories anywhere in the world do blood volume studies on the same scale that he does. Of course, we could have lowered our costs by purchasing smaller quantities of radiochromate less frequently, as we reduced the number of blood volume studies from 1-2 per day to 1-2 per week. Professor Najean is quite right about the high cost of ^{125}I -albumin: currently it

costs us \$84 per pre-calibrated syringe. However, use of this radionuclide greatly simplifies the procedure and saves personnel time.

The costs of medical care may not need to be as carefully analyzed, and as carefully controlled, in France as in the United States at present. For

this and other reasons, comparisons of costs between our two countries may not be realistic.

Professor Virgil F. Fairbanks
Mayo Clinic
Rochester, Minnesota