

## Quantitative Esophageal Scintigraphy: How Reproducible Is This Test?

**TO THE EDITOR:** We read with interest the article by Tatsch et al (*1*). This article reports the diagnostic performance of optimized esophageal scintigraphy using the multiple swallow technique, which was shown to be close to that of manometry, and supports previous findings of this group (2,3). The method clearly discriminates between normal and pathologic function with a sensitivity of 95% and a specificity of 98%.

Unfortunately, in all reports concerning this method, no data are provided on the reproducibility of the test, either in patients or healthy individuals. As long as these data are not available, this technique cannot be recommended to be used in clinical practice, especially not for monitoring progression of or therapeutic effects on esophageal dysmotility. We therefore kindly ask Tatsch and colleagues to provide us with data on reproducibility of this test.

### REFERENCES

1. Tatsch K, Voderholzer WA, Weiss MJ, Schroettle W, Hahn K. Re-appraisal of quantitative esophageal scintigraphy by optimizing results with ROC analyses. *J Nucl Med* 1996;37:1799-1805.
2. Tatsch K, Schroettle W, Kirsch C-M. Multiple swallow test for the quantitative and qualitative evaluation of esophageal motility disorders. *J Nucl Med* 1991;32:1365-1370.
3. Tatsch K, Voderholzer WA, Weiss MJ, et al. Simultaneous assessment of bolus transport and contraction parameters in multiple swallow investigations. *J Nucl Med* 1992;33:1291-1300.

F.H.J. van den Hoogen  
W.C.A.M. Buijs  
A.M.T. Boerbooms  
L.B.A. van de Putte  
F.H.M. Corstens  
University Hospital  
Nijmegen, The Netherlands

## The Therapeutic Approach in Subacute (de Quervain's) Thyroiditis

**TO THE EDITOR:** In a recent article, Meier and Nagle (*1*) reported three interesting cases drawing attention to the differential diagnosis of a painful thyroid. The therapeutic approach in subacute thyroiditis may be somewhat misleading to the clinicians. Indeed, Meier and Nagle (*1*) used corticosteroids to relieve symptoms of subacute (de Quervain's) thyroiditis as there is no specific therapy for the subacute thyroiditis. Almost every review of this subject has recommended employment of corticosteroids in relieving symptoms of disorder (*2*). Corticosteroids, however, should not be routinely used.

We performed a retrospective review of the clinical course of 318 patients (284 women, 34 men; range 24-76 yr; mean age  $44.9 \pm 8.9$  yr) who had had subacute thyroiditis diagnosed between 1970 and 1990. Our purpose was to validate and compare the efficiency of corticosteroid and nonsteroidal treatment of subacute thyroiditis. To be included in the study, a patient had to have a complete set of scintigrams and thyroid function tests made at the time of presentation and follow-up. Diagnostic criteria for subacute thyroiditis were generalized somatic symptoms, pain and tenderness of the thyroid, nonvisualization of the thyroid on scan, increased erythrocyte sedimentation rate and absence of antimicrobial antibodies. Fine-needle aspiration biopsy was available in 262 patients, and in 213 (81.3%) of them typical cytopathologic finding was found. Complete restoration (restitutio ad integrum) of the thyroid was recognized and defined when the thyroid was clearly visualized on the scan, preceded by normalization of thyroid function tests and erythrocyte sedimentation rate. We identified 237 of the patients who had received nonsteroidal anti-inflammatory drugs (mostly ibuprofen and acetylsalicylic acid), and 49 patients who had received corticosteroids (mostly prednisone, initially with

40-60 mg daily, and gradually discontinued). The response after corticosteroids therapy was prompt and excellent, but with withdrawal of therapy, even very gradually, exacerbation of disease with all signs and somatic symptoms was often observed. Thus, corticosteroids had to be given once again and the treatment of subacute thyroiditis was significantly prolonged. The mean time for achieving complete restitution of the thyroid was  $3.6 \pm 1.0$  mo in patients on nonsteroidal therapy versus  $6.4 \pm 2.7$  mo in patients on corticosteroids.

Treatment of subacute thyroiditis should be nonsteroidal analgesics anti-inflammatory drugs, while corticosteroids should not be recommended routinely and should be reserved only for the most seriously ill patients.

### REFERENCES

1. Meier DA, Nagle CE. Differential diagnosis of a tender goiter. *J Nucl Med* 1996;37:1745-1747.
2. Volpe R. The management of subacute (DeQuervain's) thyroiditis. *Thyroid* 1993;3:253-255.

Nedeljko Topuzovic  
Juraj Smoje  
Ivan Karner  
Osijek Clinical Hospital  
Osijek, Croatia

## Feasibility of Estimating Glomerular Filtration Rate on Children Using Single-Sample Adult Technique

**TO THE EDITOR:** We read with interest the recent article by Ham and Piepsz (*1*) on the feasibility of estimating glomerular filtration rate on children using single-sample adult techniques. The authors concluded that the single-sample adult technique, using plasma concentration prescaled for  $1.73 \text{ m}^2$  body surface area, cannot be used in place of a specific pediatric single-sample method to estimate  $^{51}\text{Cr-EDTA}$  renal clearance in children. The authors also reported that they were not aware of a validation of the technique for a glomerular agent. We would like to comment on both these issues.

The idea of scaling plasma concentrations using body surface area had been introduced by our group (*2*) somewhat earlier than Bubeck et al. (*3*), which is cited by the authors as being the first description of the principle. This was applied to the assessment of GFR using  $^{99\text{m}}\text{Tc-DTPA}$ . We pointed out that this was not only useful in dealing with adults of different size, but also children, and demonstrated its use in this situation in a small number ( $n = 7$ ) of pediatric patients for 180-min samples.

We have been using this technique clinically for the past 10 yr. Our own method of choice in children is to collect two blood samples at approximately 2 and 3 hr. If this is not logistically possible, then a single sample at about 3 hr is used. If we obtain both samples, then both the single sample and the two-sample GFR values can be calculated. In technically good studies, our experience shows that the 3-hr single sample and two-sample values agree within the errors specified previously i.e., a s.d. of  $5.4 \text{ ml/min}$  (*2*). For two sample measurements, this level of agreement can be used as a quality control measure of the study. Tissueing of the injection, for example, can lead to inconsistency between these values. An important practical aspect of using the single-sample technique is that the sample is not usually obtained at the exact times that the single-sample equations are defined. We have a set of equations defined at different times and clearance values at intermediate times are defined from these using linear extrapolation. It is also important to note that empirical equations are only valid over the range of values used in their derivation and should not be applied outside this range.

The equations quoted by Ham and Piepsz (*1*) have been compared with our own equations. Figure 1 shows the relationship between the apparent volume of distribution at 240 min for adult subjects, assuming a body surface area of  $1.73 \text{ m}^2$ . Our own equation, which was derived using  $^{99\text{m}}\text{Tc-DTPA}$ , is almost identical to that of Morgan et al. (*4*) using