CORRESPONDENCE

Total TRH response in TRH test

Sir,
There is a correction to Swartz et al. (1). The described characteristic P represents the total TSH release only when TSH elimination is blocked, i.e., the elimination rate E is zero. The correct expression for total TSH release is the integral of the TSH release rate, which is P (1-E/R). The ratio of total TSH release to total area under the curve of TSH elevation vs. time (AUC) is then found to be the elimination rate E; this demonstrates simply how AUC depends on TSH elimination and does not describe pituitary function.

This correction changes some of the numbers concerning total TSH release, but does not change discussion of timing, rates of release or elimination, half-life, latency, or the ability of the equation to account for the measured data. On average, total TSH release was 33% larger than the observed peak elevation, rather than 55%. The corresponding correlation coefficient (Pearson's r) remains r=0.97, confirming that maximum TSH elevation over baseline reflects total TSH release, at least for patients for whom the TSH peak occurs within 45 minutes of TRH infusion. The values in the first two columns of Table 2 are unchanged; each of those in the third column should be multiplied by 0.89.

Reference