

## PROCALCITONIN ASSAY SHOWS PROMISE

A study suggests some of the drawbacks associated with the use of calcitonin as a marker of medullary thyroid carcinoma (MTC) might be overcome by measurement of procalcitonin.

Algeciras-Schimmich *et al.* (Mayo Clinic, USA) compared the diagnostic performance of procalcitonin with that of calcitonin in several populations of patients, including 91 individuals with active MTC. They also assessed the analyte's stability and susceptibility to assay interference ('the hook effect').

Mean procalcitonin levels were considerably higher in sera from patients with active MTC than in the sera from those whose disease was cured (126.4 ng/ml versus <0.1 ng/ml). Diagnostic performance of the two tests was statistically identical in all groups of patients, and the overall concordance between test results was 95.7%. The researchers also found that procalcitonin was more stable than calcitonin when analyzed after different storage conditions (for example, freeze-thaw). In addition, falsely low results were less common with procalcitonin than with calcitonin.

The procalcitonin assay addressed at least two of the problems associated with the use of calcitonin as a marker of MTC without any loss of diagnostic performance. Between-assay variability might also be diminished with the procalcitonin assay. The study did not address the issue of postoperative screening; prospective studies with longitudinal follow-up will, therefore, be required before the procalcitonin assay becomes routinely used in the diagnostic work-up of patients with MTC.

"We do not know at this stage whether the more predictable procalcitonin half-life makes a difference in real life," acknowledges Stefan Grebe, the study's senior investigator. Nevertheless, these results suggest that procalcitonin could represent a promising marker of MTC.

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Procalcitonin: a marker for the diagnosis and follow-up of patients with medullary thyroid carcinoma. *J. Clin. Endocrinol. Metab.* doi:10.1210/jc.2008-1862 (2008).