

## The acid on levothyroxine sodium

In patients with goitre, impaired gastric acid secretion necessitates greater doses of levothyroxine sodium to achieve similar effects, according to researchers from Italy.

They evaluated data from patients with nontoxic multinodular goitre who were divided into a study group, which consisted of those with impaired gastric secretion ( $n = 123$ ), and a reference group ( $n = 135$ ). All patients initially received levothyroxine 50  $\mu\text{g}/\text{day}$ , which was progressively increased until a low serum thyrotropin-alfa level was achieved (0.05–0.20 mU/L); participants were monitored for  $\geq 30$  months.

In the reference group, the median dose of levothyroxine required to achieve the low serum thyrotropin-alfa level was 1.53  $\mu\text{g}/\text{kg}/\text{day}$ . However, in the study group, significantly greater median doses of levothyroxine were required; the median doses required by patients with impaired acid secretion due to *H. pylori*-related gastritis ( $n = 53$ ), atrophic gastritis (60), and both conditions (31), were increased by 22%, 27% and 34%, respectively.

Interestingly, age did not appear to alter this effect. The median increase in levoxythyroxine requirements for patients with atrophic gastritis, compared with reference patients, was similar for both those aged  $< 60$  years and those  $\geq 60$  years (both 32%,  $p < 0.001$ ).

However, concomitant omeprazole use was associated with increased requirements. In ten patients with gastro-oesophageal reflux disease, the introduction of omeprazole 40 mg/day required a significant 37% median increase in the dose of levothyroxine required to reach the low thyrotropin-alfa level.