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Retrospective Cohort Study

Levothyroxine therapy and impaired clearance are the strongest contributors to small intestinal bacterial overgrowth: Results of a retrospective cohort study

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Scientific research process

1 What did this study explore?

The study investigated potential contributors to small intestinal bacterial overgrowth (SIBO).

2 How did the authors perform all experiments?

The study was designed as a retrospective cohort study. SIBO was confirmed by hydrogen breath testing. All data was taken from the original examination reports and the electronic data system.

3 How did the authors process all experimental data?

All reports from breath testing were reviewed and correlated with suspected contributors. Suspected contributors were summarised under four different pathophysiological pathways (impaired gastric acid barrier, impaired intestinal clearance, immunosuppression and miscellaneous factors including thyroid gland variables) and investigated using the χ^2 test, Student's t-test and logistic regression models.

4 How did the authors deal with the pre-study hypothesis?

The open hypothesis claimed that particular risk factors, especially impaired gastric acid barrier, impaired intestinal clearance, immunosuppression and miscellaneous factors including thyroid gland malfunction contribute to the development of SIBO.

5 What are the novel findings of this study?

The most important contributors for the development of SIBO in ascending order are immunosuppression, impairment of intestinal clearance and levothyroxine use, but they do not sufficiently explain its emergence.

A handwritten signature in black ink, appearing to be 'TB' with a long horizontal stroke extending to the right.

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