Non-invasive diagnostics by ammonia breath test

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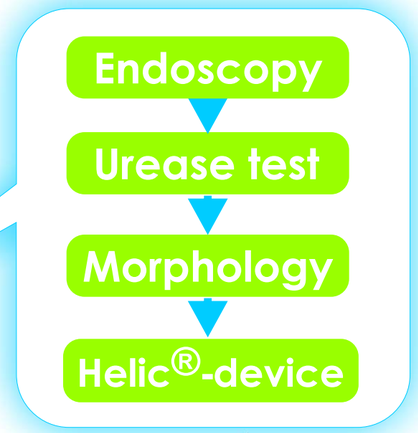
Association of Medicine and Analytics

AIM – to evaluate Helic-device as HP diagnostic tool in adult patients with gastrointestinal tract (GIT) disease.



43 patients (21 women, 22 men, average age 41, range 23-74) were examined. Patients having different diseases of GIT were included.

All patients were examined by upper gastrointestinal endoscopy with biopsy from gastric corpus and antrum.

HP infection was diagnosed by 2 methods: histology and express urease test. All patients were tested by Helic-device after taking 500 mg urea. Composition of breath air (ammonia level) was evaluated every second during 540s.

Fig.1 Helic-device has high coincidence with other methods:

Fig.2 Level of Helic-device's signal increases accordingly with level of HP infection.

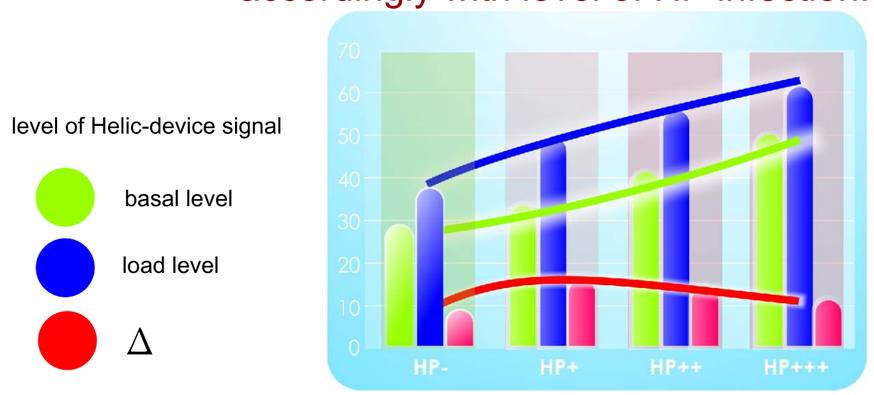


Fig.3 Level of Helic-device's signal rises accordingly with increase of HP bacillary form's part

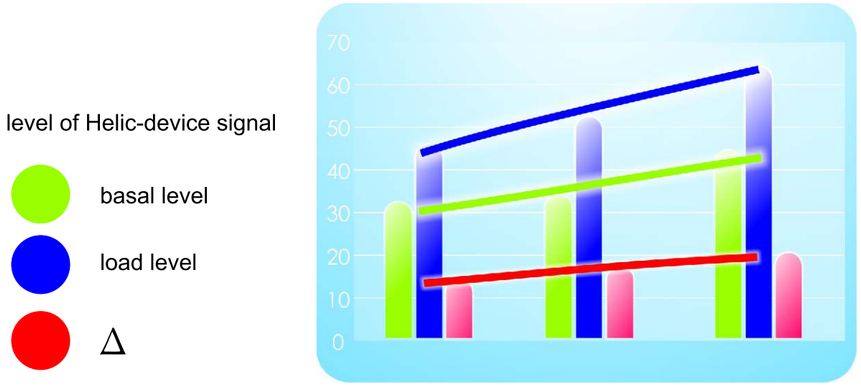


Fig.4 Level of Helic-device's signal depend on the localization of bacteria

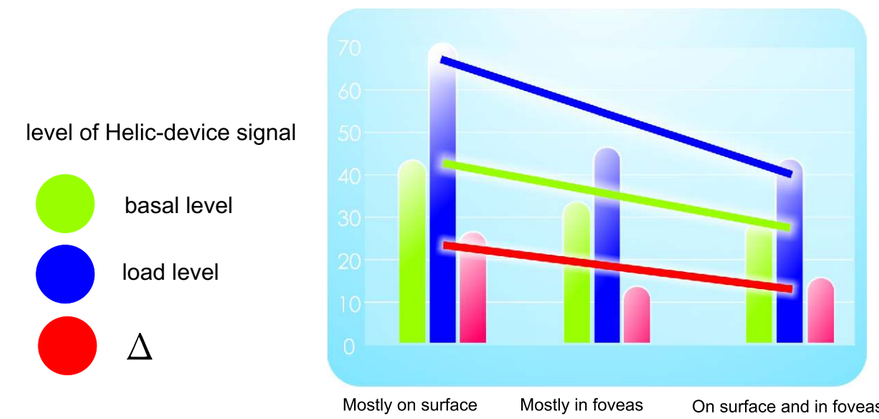


Fig.5 Level of Helic-device's signal depend on the sphincter status

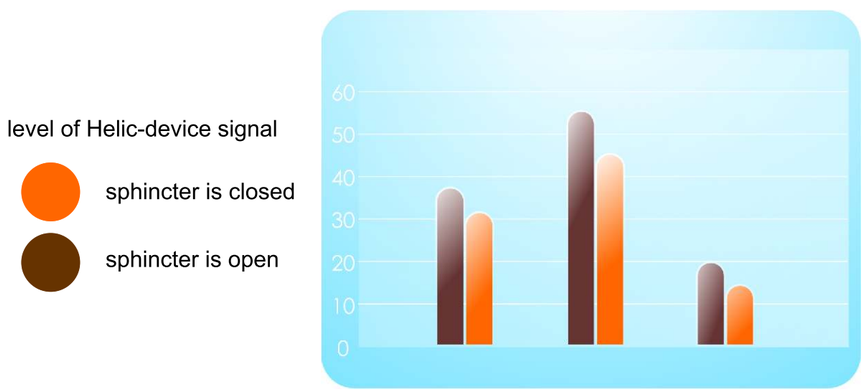
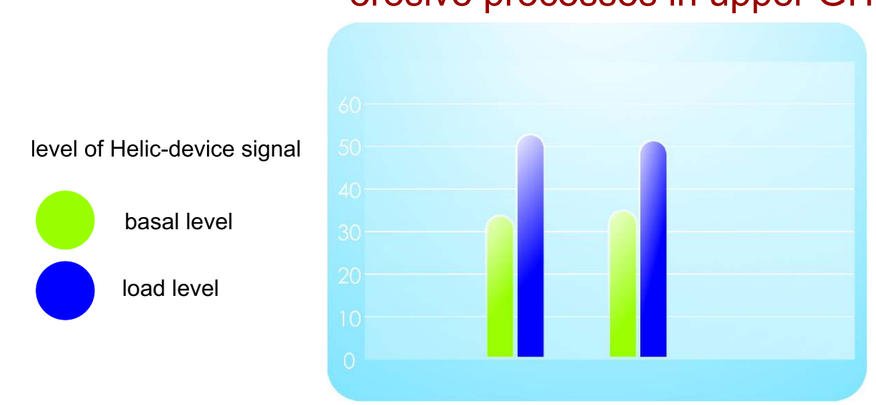


Fig.6 Level of Helic-device's signal DO NOT depend on erosive processes in upper GIT



CONCLUSIONS

1. The composition of breath air is different for HP(+) and HP(-) patients.
2. Helic-device is able to detect this distinction.Test can be used for non-invasive diagnostics of HP infection.
3. As a cut-off should be used criterion, considering basal and load composition of breath air.