

Effects of Mastic Gum on *Helicobacter pylori* Gastritis

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Objective: Mastic gum (Mastic) is a natural sappy extract obtained from the *Pistacia lentiscus* tree and has been known to be very effective in the treatment of abdominal pain, dyspepsia, gastritis and peptic ulcer since ancient Greek times. Recently, in vitro trial, the report that Mastic gum has a very strong inhibitory effect on *H. pylori* has aroused people's interest. The authors intended to investigate whether mastic is effective in treating *H. pylori* gastritis by making chewing gum containing mastic (1 mg/piece).

Methods: Volunteers for this clinical trial were eligible as subjects of the trial. The subjects were 48 people who were found to have *H. pylori* infection through UBT and have *H. pylori* gastritis through upper gastrointestinal endoscopy and histological examinations. Chewing gum containing mastic and ordinary gum not containing mastic (placebo) were given for 90 days to two groups with age and sex randomized by a double-blind test. Each group was instructed to chew gum for 15 minutes three times a day before meals and was encouraged to follow the directions by individual telephone calls in order to increase compliance during the trial. Each group underwent a ^{13}C UBT upper gastrointestinal endoscopy and histological examination before trial, and at 30 and 90 days after the administration. Biopsy tissue of pyloric vestibule was used for RUT and histological examination and the gastritis score was measured using the updated Sydney System. Gum was not given to 15 *H. pylori* negative volunteers, who were compared as controls by the same test performed before the test and 30 and 90 days after.

Results: Clinical trial compliance of every subject was more than 90%. In the group that chewed gum containing mastic, the $\Delta^{13}\text{C}(\text{‰})$ value measured at 90 days after the trial had decreased significantly compared to before the trial and 30 days after administration ($p=0.033$, $p=0.034$, respectively). In the mastic gum group, gastritis activity significantly improved to 2.3 ± 0.5 at 90 days after administration compared to 2.8 ± 0.4 measured before trial ($p=0.004$). In the group that chewed ordinary gum not containing mastic, however, there was no difference in the $\Delta^{13}\text{C}(\text{‰})$ value or gastritis activity regardless of the administration period.

Conclusion: Mastic gum was effective for decreasing the density of *helicobacter pylori* and improving gastritis in *H. pylori* gastritis, and can be used as a new supplementary treatment for inhibiting *H. pylori*.