

Recent trends of integrative medicine in the treatment of *H. pylori* infection



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In the treatment of *H. pylori* infection, new triple therapies including a PPI and two antibiotics are commonly used. In Japan, the percentage of the population that is infected with *H. pylori* is over 70% over the age of 50 years. For the eradication of the bacteria from all infected persons, a numerous cost will need. On the eradication, patients with gastric and duodenal ulcers are only covered by public medical insurance in Japan. The eradication therapy is not recommended for the most infected persons. For these peoples, other remedies may be of great benefit.

It has been reported that many refined substances and crude extracts from plant and animal origin have the effects against *H. pylori* infection in Japan. They are divided into several groups on the mode of action: 1) acting directly against the bacterium, 2) inhibition of the bacterial adherence to gastric mucus layer, 3) inhibition of the urease activity of the bacterium, 4) suppression of IL-8 production from gastric epithelial cells, 5) suppression of gastritis by antioxidant substances, and 6) prevention and treatment by immunization. Of course, several substances indicate plural modes of action. In this meeting, we will present representatives reported recently in Japan among these substances.

Many antibiotic agents show high antibacterial activities against *H. pylori*. However, eradication rates with single antibiotic agents have been poor. The substances cited above indicate low antibacterial activities comparing with the antibiotic agents, and the single uses of them show only suppression of bacterial counts or improvement of gastritis to some extent in animals and human infected with *H. pylori*. Therefore, combination uses especially among substances having effect to different cite or having different action should be planned and be investigated.

Most of them originate in food, and do not indicate acute toxicity. However, chronic toxicities or side effects by daily intake should be observed for a long term.

IgY technology application for Food products



Dr. Piro (yogurt) from Glico Dairy
Available in Kyushu, JAPAN



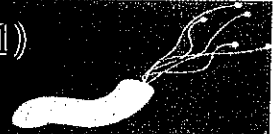
gut (drink yogurt) from Maeil Dairy
Available in South Korea



Pylorigen (tablet) from DHC
Available in JAPAN

Focus on "inhibition of the bacteria"
 result from mice

Page (1)



A) Efficacy Study of Anti-*H. pylori* Urease IgY in Mice

Animals: NS:Hr/ICR hairless mice

IgY: Egg powder containing anti-*H. pylori* urease IgY

Dosage: 0.25, 2.5, 25% in feed

Period: 10 weeks

Assessment: Bacterial count in gastric tissue

Treatment	Log ₁₀ CFU/100mg gastric tissue/mouse (mouse negative rate)	
Negative control	0.00 ± 0.00	(6 / 6)
Positive control	3.64 ± 0.39	(0 / 10)
0.25% added in feed	3.08 ± 0.79	(0 / 10)
2.5% added in feed	1.26 ± 1.47 **	(5 / 10) #
25% added in feed	0.94 ± 1.53 **	(7 / 10) ##

**; P<0.01, Fisher's test. #, ##; P<0.05, 0.01, chi-square test.

(The Japanese Society of Gastroenterology, 2001)

B) Efficacy Study of FP-10 in Mice

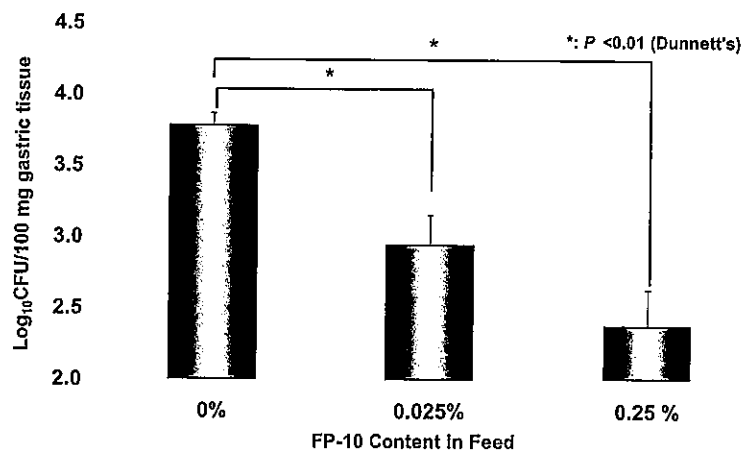
Animals: NS:Hr/ICR hairless mice

H. pylori: *H. pylori* NSP335

FP-10 Dosage: 0, 0.025, 0.25 % in feed

Period: 10 weeks

Assessment: Bacterial count in gastric tissue



(Modified from Hiramoto S et al, *Helicobacter*, 9, 429-435 2004)

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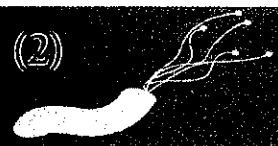
IgY for Human

Joint application patent

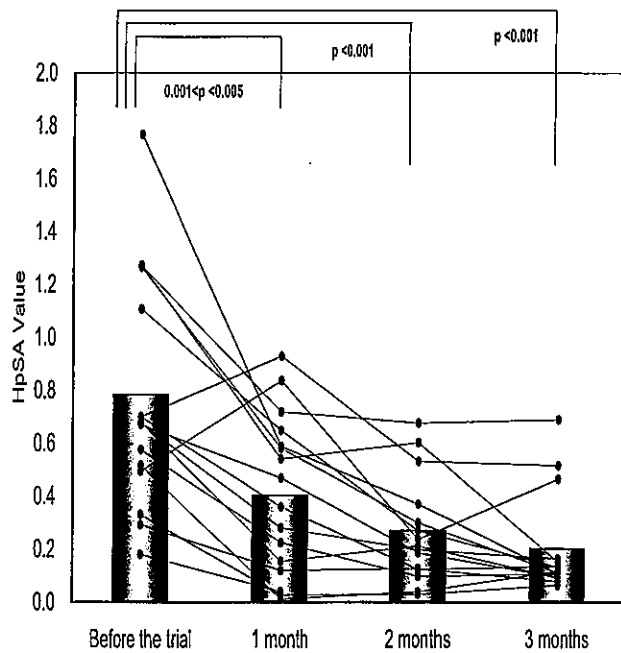
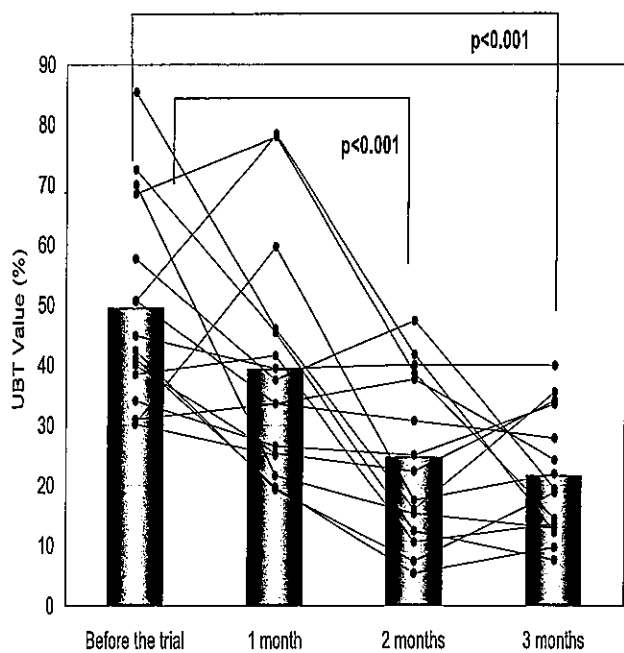
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- Korea No. 0426832
- USA No. 6419926
- Australia No. 735418

Focus on "inhibition of the bac
result from human

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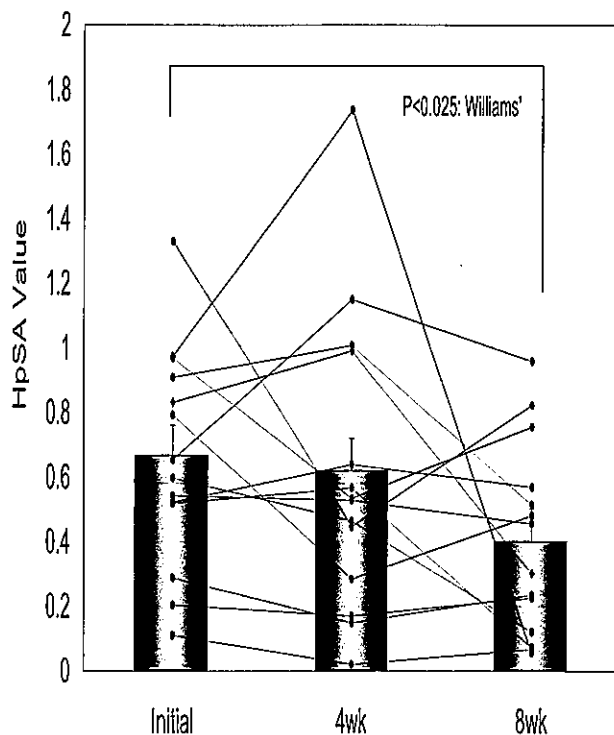
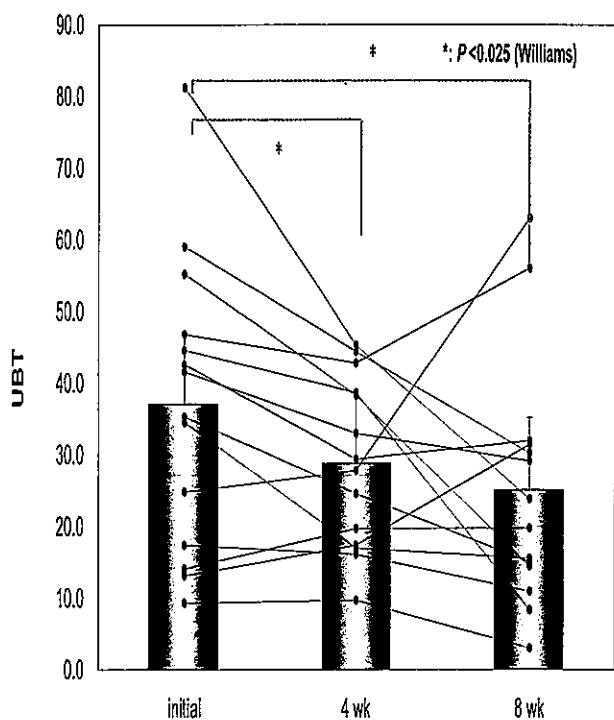


A) Efficacy Study of Anti-*H. pylori* Urease IgY in Human



(The Japan Society for Bioscience, Biotechnology, and Agrochemistry, 2003)

B) Efficacy Study of FP-10 in Human



(Hiramoto S et al, *Helicobacter*, 9, 429-435 2004)