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ORIGINAL-ARTICLE

Helicobacter pylori: Pathology, Diagnosis and Nano Natural Treatment of Diabetes and Auto-immune Diseases

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Abstract

Helicobacter pylori represents one of the most common prominent infections worldwide. Infection with this micro aerobic, gram-negative bacterium has been established as an essential factor in the development of peptic ulcer disease. In addition, H pylori infection has been associated firmly with the development of gastric neoplasia, including gastric adenocarcinomas and lymphomas. The present patent-pending invention relates to a new pathological discovery of diabetes and autoimmune diseases associated with H. Pylori infection and of a new nano natural composition for treatment of diabetes and autoimmune diseases. The composition for treating H. Pylori causing diabetes, and autoimmune diseases and preferably formed of nano herbal extracts, contains Bee Propolis, Licorice, Mastic, Cinnamon and Olive Leaf or nano extracts of them. With no adverse or side effects.

1 | INTRODUCTION

In 2005, Barry Marshall and Robin Warren were awarded the Nobel Prize in Physiology for their pioneering work on Helicobacter pylori. In the words of the Nobel Committee, they were honored “for their discovery of the bacterium Helicobacter pylori and its role in gastritis and peptic ulcer disease.” The Committee added, “Thanks to the pioneering discovery by Marshall and Warren, peptic ulcer disease is no longer a chronic, frequently disabling condition, but a disease that can be cured by a short regimen of antibiotics and acid secretion inhibitors.” (1):

ALLAH(s) says in HOLY QURAN (and Eat and Drink but not too much) (2) The Muslim famous doctor Al-Harith Bin Kilda was narrated a very important health advice (Stomach is the house of diseases) (3) which means it is the cause of all diseases.

2 | AUTOIMMUNE PATHOLOGY AND DIAGNOSIS

According to JOHNS HOPKINS (4): we do not know what causes autoimmune diseases, we have learned a great deal about their "pathogenesis" (or "natural history")—how the disease progresses over time and damage ensues.

Three factors are at play in the pathogenesis of autoimmune diseases: genes, immune system, and the environment where the patient lives. The genes confer what is called "predisposition" or genetic susceptibility. The immune system becomes dysregulated and provides the tools for executing the pathological damage. The environment delivers the triggers that may make the autoimmune disease clinically apparent.

We have also learned that autoimmune diseases are chronic conditions: they require a long time (years)

before they become clinically evident and diagnosis (so, they have long latent phase), and then last for decades (often a life time) once diagnosed.

Professor Mansour during the last 15 years of clinical consultation with Dr Bassam Khasawneh at Yarmouk University clinic discovered a direct relation between 90% of diabetes cases and H. Pylori infection and when H. Pylori was treated there was great results towards the cure of diabetes. Therefore he wrote a full chapter in his book; the Miracle Cures of Diabetes (5) on the the relation of diabetes and H. Pylori.

3 | SIDE EFFECTS OF H.PYLORI MEDICATIONS

Up to 20 percent of patients with H. pylori infection are not cured after completing their first course of treatment.

Pylokit H pylori Kit has many common side effects including tiredness, headache, nausea, stomach pain diarrhoea, vomiting, a sensation of dryness and a metallic taste in the mouth. Moreover many patients encounter a recurrence of H. Pylori after treatment.

4 | NATURAL NANO FORMULATION FOR THE TREATMENT OF H.PYLORI

Using compositions including antibacterial extracts; such as Bee Propolis, Licorice, Mastic, Cinnamon and Olive Leaf or nano extracts of them.

5 | TARGET OF THE INVENTION

Primary target of the present invention is to investigate the relationship between H. Pylori infections with different types of autoimmune diseases and use a natural safe formulation to treat H. Pylori.

The present invention relates to an oral natural composition for treatment of H. Pylori, preferably formed of Bee Propolis, Licorice, Mastic, Cinnamon and Olive Leaf or nano extracts of them.

6 | DETAILS OF THE MAIN FORMULATION OF THE INVENTION

Present invention relates to the use of a composition which can be formed as an efficient tool to treat H.Pylori.

The composition is formed of:

Bee Propolis Extract:

In 2016, Nimet Baltas et al (6) performed a study on 15 ethanolic extracts of bee proplis leaf to evaluate the anti-bacterial potential of bee propolis extract.

Propolis is a pharmaceutical mixture containing many natural bioactive substances. The aim of this study was to use propolis samples to treat H. pylori. The anti-H. Pylori and anti-urease activities of 15 different ethanolic propolis extracts (EPEs) were tested. All propolis extracts showed high inhibition of H. pylori. In conclusion, propolis extract was found to be a good inhibitor that can be used in H. pylori treatment to improve human health.

Licorice Extract

Ali Momeni et al (7), in a double-blind clinical trial study, 60 patients with Peptic Ulcer Disease and positive H.Pylori test were enrolled. The patients were randomly allocated into two equal groups. In first group, licorice, amoxicillin, metronidazole and omeprazole and in the second (control) group, bismuth subsalicylate, amoxicillin, metronidazole and omeprazole were prescribed respectively, and 4 weeks after treatment, in order to evaluate H. pylori eradication, urea breath test was done in all patients. The outcome of the study was the preference usage of licorice as an effective medication for H. pylori eradication.

Supplementary information: *The online version of this article (https://doi.org/10.52845/ (rrarjmcs/2023/9-4-3) Contains supplementary material, which is available to authorized users.*

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Mastic Gum Extract

Farhad U. Huwez (8) M.R.C.P., Ph.D. Barnet General Hospital, UK showed that low doses of mastic gum — 1 mg per day for two weeks — can cure peptic ulcers very rapidly, but the mechanism responsible has not been clear. He found that

mastic is active against Helicobacter pylori, which could explain its therapeutic effect in patients with peptic ulcers.

Mastic is a resinous exudate obtained from the stem and the main leaves of Pistacia lentiscus. It is used as a food ingredient in the Mediterranean region. Clinically, mastic has been effective in the treatment of benign gastric ulcers and duodenal ulcers. In rats, mastic showed cytoprotective and mild anti secretory properties. He assessed the antibacterial properties of mastic against H. pylori.

These results suggest that mastic has definite antibacterial activity against H. pylori. This activity may at least partly explain the anti–peptic-ulcer properties of mastic. Examination of the anti–H. pylori effect of the various constituents of mastic, which have been recently identified, may pinpoint the active ingredient. Mastic is cheap and widely available in Third World countries; therefore, data should have important implications for the management of peptic ulcers in developing countries.

Cinnamon Extract

Cinnamomum cassia is widely employed for gastrointestinal complaints such as dyspepsia, flatulence, diarrhea, and vomiting. Studies report cinnamaldehyde (CM) as a major active constituent of cinnamon. The aim of Jibran Muhammad's(9) study was to evaluate the anti-inflammatory mechanism of CM on Helicobacter (H.) pylori-infected gastric epithelial cells in order to validate cinnamon traditional use in gastrointestinal (GI)-related disorders. Anti-H. Pylori cytotoxic and anti-adhesion activity of Cinnamon extract were determined. Cinnamon extract suppressed H. pylori-induced NF-κB activation and prevented degradation of inhibitor (I)-κB this study provides evidence that the anti-inflammatory effect of C. cassia on H. pylori-infected gastric cells is due to blockage of the NF-κB pathway by cinnamaldehyde. This agent can be considered as a potential candidate for in vivo and clinical studies against various H. pylori related gastric pathogenic processes.

Olive Leaf Extract

H. pylori is one of the major human pathogens infecting approximately 50% of the world's population. Its treatment is based on the combined use of different antibiotics. In recent years, the number of antibiotic resistant strains have been increased. Therefore, new alternative therapies are required for H. pylori treatment. The aim of Jose Silvan et al (10) work was to evaluate the antibacterial, anti-inflammatory and antioxidant effect of olive leaf extracts against antibiotics resistant H. pylori strains. Two olive leaf extracts were used: E1, enriched in hydroxytyrosol (10%); and E2, enriched in oleuropein (20%). E1 extract showed a bactericidal effect for all evaluated H. pylori strains (7/7), while the E2 extract was bactericidal for three of the studied strains (3/7) and caused a decrease of around 1 log in colony forming units (CFU) for the rest of the strains. About antioxidant activity, both extracts reduced up to 33% the production of intracellular reactive oxygen species in human gastric AGS cells infected by H. pylori, being the antioxidant activity of the E2 extract higher than E1. Finally, E1 and E2 extracts showed anti-inflammatory activity, reducing IL-8 pro-inflammatory factor secretion by infected-AGS cells in a range of 20-74% and 71-93%, respectively. Therefore, the olive leaf extracts could be considered as a potential new candidate for H. pylori treatment, providing an alternative for the 20% of infected people with symptoms for whom antibiotic treatments are not effective.

7 | EXAMPLES OF PRE-CLINICAL RESULTS

The following examples are selected from different types of autoimmune diseases patients who were100%cured from H. Pylori infection the thing which helped them in the reduction of disease symptoms

Table 1: *Effect of Nano PYLORITECH THERAPY on different types of diseases*

Case	No. Patients	Disease Type	Treatment Time
1	100	Diabetes	2 weeks
2	12	Rheumatoid Arthritis	2 weeks
3	5	Behcet Disease	4 weeks
4	4	Ulcerative Colitis	5 weeks
5	10	Psoriasis	3 weeks
6	6	Multiple Sclerosis	5 weeks
7	4	SLE	4 weeks
8	10	Eczema	1 week
9	3	Crohns Disease	6 weeks
10	2	Parkinson	6 weeks

8 | SAFETY AND TOXICITY STUDY

Toxicity study performed on mice in the animal house in Jordan University of Science and Technology showed that the composition is free of adverse effects especially on liver, kidneys, lipid and other body organs.

9 | JORDAN UNIVERSITY OF SCIENCE & TECHNOLOGY

Animal House Report

Analysis of Toxicological effect of Herbal Capsules PYLORI-TECH

Methods:

- Two groups of mice, each of 10 were used
- Proper amount of the tested extract was used. The extract base without the active ingredient was used to the control group
- After 0, 6, 12, 18, days blood was collected by heart puncture or tail tip from all mice using EDTA tubes
- The following tests were performed:

A. Physical activity of general appearance

B. Pathological tests: after dissection of animals at the end of the exp

The following organs were examined: liver, pancreas, adrenal gland, heart, liver, and spleen

C. Hematological tests including RBCs &WBCs count.

D. Biochemical tests including: glucose, triglyceride (TG), cholesterol, Uric acid, creatinine, ALT, AST, amylase, Total bilirubin

10 | RESULTS

Days	0	6	12	18
Control	116±8	119±9	120±10	118±12
MC10	110±11	115±12	117±8	115±8

Glucose (mg/dL)

Days	0	6	12	18
Control	73±10	75±8	78±9	80±10
MC10	70±10	73±9	77±9	76±10

Cholesterol (mg/dL)

Days	0	6	12	18
Control	172±25	168±30	180±35	190±35
MC10	180±30	178±25	186±28	191±33

TG (mg/dL)

Days	0	6	12	18
Control	0.32±0.1	0.33±0.1	0.33±0.1	0.35±0.1
MC10	0.3±0.1	0.3±0.1	0.34±0.1	0.36±0.1

Total bilirubin

Days	0	6	12	18
Control	1±0.1	0.9±0.2	1.1±0.2	0.9±0.2
MC10	0.9±0.2	1±0.3	1.1±0.4	1.3±0.4

Creatinine (mg/dL)

Days	0	6	12	18
Control	9.3±1.1	8.8±1.4	8.9±1.5	9.1±1.3
MC10	9.5±1.5	8.7±1.2	8.5±1.5	8.3±1.1

Uric acid (mg/dL)

Days	0	6	12	18
Control	813±80	804±100	790±90	780±85
MC10	930±120	960±130	870±95	910±95

Amylase (U/L)

Days	0	6	12	18
Control	95±15	90±18	85±20	92±15
MC10	95±15	92±18	90±20	85±20

ALT (U/L)

Days	0	6	12	18
Control	108±12	102±10	92±13	95±10
MC10	110±12	85±15	75±15	45±10

AST (U/L)

Days	0	6	12	18
Control	20.4	22.1	24.3	26.6
MC10	20.2	23.2	25.1	26.8

Weight (gm)

Days	0	6	12	18
Control	5.7±0.6	6.2±0.5	5.8±0.7	5.6±0.5
MC10	5.5±0.5	5.6±0.7	5.7±0.6	5.9±0.6

Hematology (RBCs * 10 6 /mm3)

Days	0	6	12	18
Control	5.2±0.3	4.6±0.4	6.1±0.6	5.8±0.6
MC10	5.1±0.4	5.3±0.5	5.6±0.4	5.5±0.5

(WBCs *103 /mm3)

Physical activity: The group of mice which received the herbal extract did not exhibit any remarkable difference in general appearance, but they were very active throughout the study and showed high physical activity compared to the control group.

11 | SUMMARY OF RESULTS

#	***Parameter tested***	***Comment***
1	Physical activity and general apperance	No effect
2	Weight gain and water consumption	
3	Pathological examination after dissection	No macroscopic changes could be observed
4	Hematology	
4.1	RBCs	No significant changes observed
4.2	WBCs	No significant changes observed
5	Biochemical tests	
5.1	Glucose	No significant changes observed
5.2	Cholesterol	No significant changes observed
5.3	TG	No significant changes observed
5.4	Creatinine	No significant changes observed
5.5	Uric acid	No significant changes observed
5.6	Total bilirubin	No significant changes observed
5.7	ALT	No significant changes observed
5.8	AST	Significant decrease was observed
5.9	Amylase	No significant changes observed

12 | CONCLUSION

This patent-pending botanical nano formulation is expected to help many autoimmune patients of H.Pylori infection worldwide. Double blind is still needed to give more reliable results.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

1. Barry Marshall, MD and Paul Adams, Helicobacter pylori, Can. J. Gastroenterol,2008 Nov;22(11)895-896
2. Holy Quran, Al-Araaf, verse 31)
3. Islamweb.net, 22 August, 2004
4. https://pathology.jhu.edu/autoimmune/development
5. Awad Mansour, the Miracle Cures of Diabetes.Amazon.com, 2011
6. Nimet Baltas et al, Effect of propolis in gastric disorders: inhibition studies on the growth of Helicobacter pylori and production of its urease, Journal of Enzyme Inhibition and Medicinal Chemistry, pp (46-50)2016
7. Ali Momeni et al, Effect of licorice versus bismuth on eradication of Helicobacter pylori in patients with peptic ulcer disease, Pharmacognosy Research,6(4):341-344(2014)
8. Huwez FU, Al-Habbal MJ. Mastic in treatment of benign gastric ulcers. Gastroenterol Jpn 1986;21:273-274
9. Jibran Muhammad et al, Anti-inflammatory Effect of Cinnamaldehyde in Helicobacter pylori Induced Gastric Inflammation, Biological and Pharmaceutical,38(2015)
10. Jose Silvan et al, Olive-Leaf Extracts Modulate Inflammation and Oxidative Stress Associated with Human H. pylori Infection,Antioxidants,10(12)2021