

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Review Article
ISSN 2394-3211
EJPMR

GASTRITIS (WARM-E-MEDA)-A TRANSIENT REVIEW OF UNANI TREATMENT, CONVENTIONAL THERAPY & ALTERNATIVE MANAGEMENTS -AN ARTICLE

*¹Dr. Mujeeb Ahmad Mohd. Jahur Pinjari, ²Dr. Shaikh Mudassar Shaikh Altaf Maniyar, ³Dr. Syed Abid Ur Rahman, ⁴Dr. Shaikh Aqueel Shaikh Shakeel and ⁵Dr. Zakir Khan Nisar Khan

Lecturer, Dept. Tahaffuzi wa Samaji Tib (PSM), Iqra Unani Medical College and Hospital, Jalgaon.
 Lecturer, Department of Moalajat, Iqra Unani medical College and Hospital, Jalgaon.
 Assistant Professor, Dept. of Amraz-e-Jild wa Taziniyat, Yunus Fazlani Unani Medical College Kunjkheda, Aurangabad Maharashtra.

⁴Lecturer, Department of Moalajat, Iqra Unani Medical College and Hospital, Jalgaon. ⁵Reader, Department Tashreeh-ul-Badan (Anatomy), Iqra Unani medical College and Hospital, Jalgaon.



*Corresponding Author: Dr. Mujeeb Ahmad Mohd. Jahur Pinjari

Lecturer, Dept. Tahaffuzi wa Samaji Tib (PSM), Iqra Unani Medical College and Hospital, Jalgaon.

Article Received on 03/11/2023

Article Revised on 24/11/2023

Article Accepted on 14/12/2023

ABSTRACT

Gastritis (warm-e-meda) is one of the common problem in our society. Unani physicians mentioned the disease by different names e.g. Hurqat-e-Meda, Sozish-e-Meda, Warm-e-Meda, and Iltehab-e-Meda. Antral gastritis (warm-e-meda) is one of the commonest form of gastritis. Acute gastritis is a transient mucosal inflammatory process that may be asymptomatic or cause inconsistent degrees of epigastric pain, nausea and vomiting. In more severe cases, there may be erosion, ulceration, haemorrhage, haematemesis, Malena or rarely massive blood loss. Gastritis is most commonly caused due to metabolic stress, drug intake, and corrosive injuries. Other factors such as tobacco ingesting, psychosocial stress, and nutritional factors also play an important rolein its occurrence. We will discuss in detail the efficacy of some Unani herbal drugs in acute and chronic gastritis. Acute gastritis is often erosive and haemorrhagic. Neutrophils are the major cells in the superficial epithelium. Many cases results from drugs intake like aspirin and NSAID ingestion. In Unani system of medicine plants, animals as well as mineral origin, drugs are being used for the treatment of gastritis without any known side effects. Mode of action of these drugs are both systemic and local. Further unani physicians have suggested different medicines in different seasons, regions and for different temperaments (mizaj).

KEYWORDS: Gastritis, Helicobacter pylori, Eradication, Treatment, Natural, Medicines.

I. INTRODUCTION OF GASTRITIS

The role of the gastrointestinal tract (GIT) is to convert the foodstuff into nutrients, which in turn provide energy vital for life. Various organs have essential functions in this organ system. The stomach, present in the upper GIT, plays one of the most important roles in digestion. It uses chemical and mechanical action to churn and break down the food coming from the oesophagus. Thus, it has been noticed that an unhealthy stomach leads to a wide variety of problems, involving indigestion, malnutrition and unwanted weight loss. [1]

Gastritis is one of the most common gastric disorders. It is characterized as inflammation of the gastric mucosal epithelial lining of the stomach and is quite epidemiologically prevalent. It may cause bleeding and a lot of pain, along with a wide variety of various other symptoms. Chronic gastritis is also considered as a precancerous lesion. Gastritis may be caused by

pathological infections, psychological issues, over consumption of alcohol, free radical activity, and nutritional problems or by the use of certain medications such as SAIDs or NSAIDs. [5] There can be an increase or decrease in stomach acid secretion. Chronic gastritis can be classified into different sub-types. There is non-atrophic gastritis caused by Helicobacter pyloriinfection, atrophic gastritis which can be caused by H. pylori or by autoimmunity, gastritis caused by radiation or chemicals and eosinophilic gastritis caused by food sensitivity and food allergies.

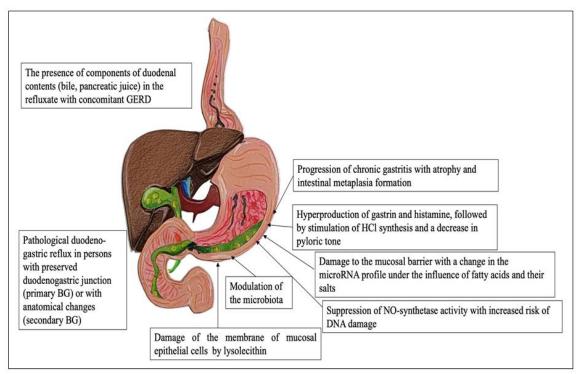


Fig. 1: Gastritis- Anatomy of Stomach During Gastritis.

Helicobacter pylori is one of the most widespread pathogens, infecting a large proportion of the human populace. Chronic active gastritis by H. pylori infection is very common but is usually asymptomatic. Nevertheless, 15% patients develop gastric ulcers and 5% may develop gastric carcinomas. Therefore, when the

symptoms develop, various complications may arise.^[7] On the other hand, acute H. pylori infection is mostly a childhood disease. Gastric discomfort, pain and vomiting are the common symptoms but they are commonly resolved in one to two weeks. Eradication of H. pylori can cure gastritis.^[8,9]

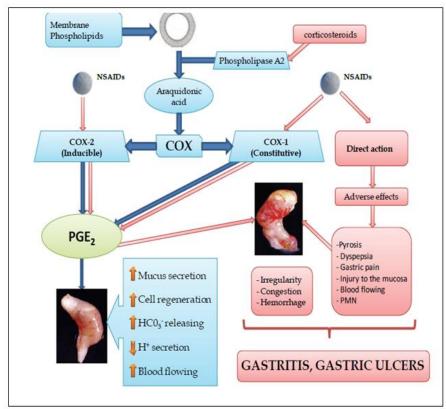


Fig. 2: Gastritis and Gastric Ulcer- A Systemic chart showing Gastritis.

II. Epidemiology of Gastritis (Warm-e-Meda)

In the western population, there is evidence of declining incidence of infectious gastritis caused by H. pylori with an increasing prevalence of autoimmune gastritis. Autoimmune gastritis is more common in women and older people. The prevalence is estimated to be approximately 2% to 5%. However, the available data do not provide solid information about the incidence and prevalence of autoimmune gastritis. Chronic gastritis is still a relatively common disease in developing countries. The prevalence of *H. pylori* infection in children in the western population is approximately 10%. In developing countries, the prevalence of H. pylori varies depending on geographical region, and socioeconomic conditions. It is approximately 69% in Africa, 78% in South America, and 51% in Asia. The prevalence of H. pylori infection of children in developing countries is higher than 50%. Socioeconomic and environmental hygiene are the essential factors in the transmission of *H.pylori* infection worldwide. These factors include family-bound hygiene, household density, and cooking habits. The pediatric origin of H. pylori infection is currently considered the primary determinant of *H. pylori*-associated gastritis in a community.

III. Pathophysiology of Gastritis (Warm-e-Meda)

- A. H. pylori-associated gastritis is transmitted via oralfecal route.
- B. H. pylori possess a number of virulence factors which facilitate cell adhesion (e.g.,BabA/B, sabA, OipA), cell damage and disruption of tight junctions (e.g., Ure A/B), andevasion from the immune response (e.g., LPS). In particular, the cytotoxin-associated gene a (CagA) is considered a potent inducer of inflammation and correlate with gastric cancer development.^[12]
- C. Another factor influencing H. pylori pathogenic effects is host factors. The host susceptible factors

- such as polymorphism in genes coding for tall receptors or specific cytokines. The infection with H. pylori triggers IL-8 which attracts neutrophils which release oxyradicals leading to cell damages. Lymphocyte infiltration is also noted in H. pylori infection.
- D. Chronic gastritis is mostly caused by H. pylori infection and appears either as nonatrophic or atrophic form. These two forms are phenotypes of gastritis at different stages of the same life-long disease.
- E. The progression from acute to chronic gastritis begins in childhood as a simple chronic superficial mononuclear inflammation of gastric mucosa which progress in years or decades to atrophic gastritis characterized by loss of normal mucosal glands in the antrum, or corpus and fundus or both.
- F. Factors that determine progression to atrophic gastritis and sequelae such as peptic ulcer and gastric cancer are not clearly understood and cannot be predicted. However, Epstein-Barr virus (EBV) and human cytomegalovirus (HCMV) have been identified in gastric tumours and DNA from H. pylori, EBV, and HCMV was determined by PCR in biopsies from patients with gastric cancer complicating chronic gastritis. [14] The involvement of EBV and H. pylori in the development of gastric cancer in patients with chronic gastritis has been confirmed by other authors, they also found no role for human papillomavirus (HPV) in gastric tumorigenesis.
- G. Nonsteroidal anti-inflammatory drugs cause gastritis through inhibition of prostaglandin synthesis. Prostaglandins are responsible for the maintenance of protective mechanisms of gastric mucosa from injuries caused by hydrochloric acid.

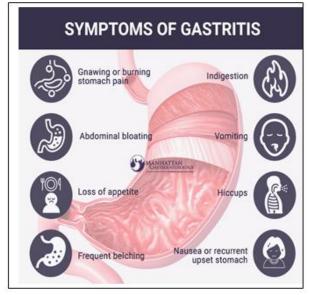


Fig. 3 Symptoms of Gastritis.

CAUSES

The most common causes of gastritis are:

- Prolonged use of Nonsteriodal anti-inflammatory drugs (NSAIDS) such as <u>aspirin</u>, <u>ibuprofen</u>,
- Infection of the stomach with a bacteria called Helicobacter pylori
- Excessive alcohol consumption

Less common causes are:

- Autoimmune disorders (such as pernicious anemia)
- Backflow of <u>bile</u> (bile reflux) from the duodenum into the stomach and oesophagus which may cause heartburn
- · Cocaine abuse
- Eating or drinking caustic or corrosive substances (such as poisons)

Fig. 4 Causes of Gastritis,

IV.	Classification	of	Gastritis ((Warm-e-Meda)

Classification of Gastrit	is		
Acute	Drugs, Stress induced , Uremia, Ischemia, Shock, Corrosive agents, Radiation, Certain food, Sepsis, Trauma, Certain infection, Acute alcoholism, Severe burns, Alkaline-Bile reflux, Major surgery Multiorgan failure, Portal hypertension, Congestive heart failure, Respiratory failure, Increase intracranial pressure.		
Reactive (chemical)	Endotossic (Alkaline Reflux-Bile Reflux, Uremic)		
gastropathy	Exotoxic (Drugs-NSAIDs, alchol, etc.) Stress induced		
Chronic	Helicobacter pylori (and H. Heilmannii)		
	Autoimmune, Hp-Negative Cronic Gastritis		
Special	Lymphocytic, Collagenous, Eosinophilic (food induced), Radiation, Graft versus host disease, Bacterial (Syphilis, Tubercolosis, Rickettsial Infections), Viral gastritis, Fungal gastritis (Candida, Aspergillus, Mucor, Coccidioides, Histoplasma, Cryptococcus		
	neoformans, Pneumocystis carinii and Torulopsis glabrata). Parasitic Gastritis		
Granulomatous	Idiopathic, Crohn Disease, Sarcoidosis, Food and Barium Granulomas		
Hypertrophic	Ménétrier Disease, Zollinger-Ellison Syndrome,		
gastropathies	Hypertrophic, Hypersecretory Gastropathy		
Gastric vasculopathies	Ischemic, Antral Vascular Ectasia (Watermelon Stomach), Portal Hypertensive Gastropathy, Varices, Angiodysplasia, Caliber-Persistent Artery (Dieulafoy Lesion); Hemodialysis-Associated Telangiectasias		
Gastric involvement in systemic diseases	Inflammatory Bowel Disease, Amyloid, Diabetes, Mastocytosis, Sjögren Syndrome, Hypercalcemia, Siderosis		

V. Unani Concept of Gastritis

According to the Unani system of medicine, this war'm (inflammation) most commonly occurs first in Meda and then in Fam-e-meda form. After that, it becomes war'm-e-sulb and lastly, the formation of pus occurs leading to abscess formation. Warm-e Meda is also called Warm Nazli as it affects mostly the mucous lining of the stomach which results in excess production of white mucoid discharge.

Warm-e-mada is divided into Two Types

- ➤ Warm-e-haad (Dammi & safravi)
- Warm-e-muzmin (Balghami & Saudavi)

According to Tibb, Jadeed Warm-e-mada is divided into two types:

- Warm-e-mada Haad (acute gastritis)
- Warm-e-meda muzamin (chronic gastritis)

According to humours, Warm-e-mada Haad is divided into four types:

- Warm Meda dammi (falgemuni)
- Warm Meda safravi (Hamratemedi)
- Warm Meda Balghami (warm rekhu)
- Warm Meda saudavi (warm salb)

A. Acute Gastritis (Warm-e-Meda Haar)

It is also known as "erosive haemorrhagic gastritis". It is caused by excessive use of spicy food, sour things, aspirin, NSAIDs, alcohol, iron preparation, and diet not taken at a proper time. A few diseases like lung and liver diseases are also responsible for acute gastritis. The clinical features are pain in the epigastric region, nausea, vomiting, and increase in pain after application of pressure on it, melaena, haematemesis, redness on face and body, and bitter taste in mouth. In acute gastritis, Qurs-e-Gulnar is beneficial. For relaxation in pain, it is

advised to boil 25 gm of Post-e-Khashkhash with 200 ml of Arq-e-Gulab and to apply "Tikor" on the stomach. 50 ml of Aab-e-Murrawqa along with 20 ml of Sharbat-e-Bazoori with khaksi spread on it can be applied to relieve the inflammation and fever.

B. Chronic Gastritis (Warm-e-Meda Muzmin)

In this type of gastritis, mucous membrane is thickened. In this type of gastritis, the mucous membrane is thickened which may be due to alcohol consumption, hepatomegaly, arthritis, nephritis etc. Clinical features show that abdominal pain, Nafkh-e-Shikam (flatulence), weakness, and anaemia can be present. Chronic gastritis is caused by balghami and saudawi khilt. In warm-emeda balghami, face and body colour turns white, oedema is present, and saliva is more in quantity; whereas in warm-e-meda saudawi, face and body colour turns black, and eyes become wide and dry. It should be treated by nuzj, vomiting and thin diet, muqwayat etc. but in warm-e-meda balghami, vomiting is restricted. Water should not be drunk in much quantity immediately after eating. 6 gm of Majoon Dabeed-ul-ward with 40 ml of Aab-e-Murrawaga in should be used in the morning and evening and Zimad-e-Jalinoos should be applied on the stomach. 6 gm of Jawarish-e-Anarain should be consumed after eating. Namak-e-Sulemani should be used along with Qurs-e-zarishk for a better response.

VI. According to Unani Physicians Gastritis (Warm-e-Meda)

Jurjani Says, Warm-e-Meda is Damvi and Sufravi. The occurrence of Warm-e-Sulb and Warm-e-Baghami is rare. Salabat is found in damvi and sufravi types but in the last stage.

Gilani Says: Mostly balghami disorders are found in the stomach. Warm-e-Meda (gastritis) is the most common form.

Mizaj of Meda

These are the different sign and symptoms according to different types of mizaj.

- A. Meda ka Mizaj Haar: Hazm (digestion) is rapid and hunger is less. In stomach, soft diet (Raqqeq ghizaen) is wasted, e.g meat of Halwaan (Halwan ka ghosht). In stomach, to digest easily solid diet (Ghaliz ghizaen) e.g. meat of goat (Laham Baqr). These people feel thirstier and get angry quickly.
- **B.** Meda ka Mizaj Baarid: Digestion is weak and hunger is more in barid mijaz people. Solid diets (Ghaliz Ghizaen) are not easily digested and get wasted in the stomach very quickly which can lead to sour belching.
- C. Meda ka Mizaj Ratab: Lack of thirst, loose stool, nausea and vomiting, dawar (vertigo), and weakening of eyes are symptoms of ratab mizaj.
- **D. Meda ka Mizaj Yabis:** Its symptoms include an increase in thirst, dry stool, and lack of appetite. ^[9]

VII. Causes of Gastritis (Warm-e-Meda)

Ingestion of fatty food, intake of spicy food, sweetish or bitter things, alcohol consumption and overeating may be responsible for acute gastritis. In some cases, however drinking of hot water may also cause inflammation of mucous membrane of stomach. If warm-e-haad persists for long periods, it can lead to warm-e-muzmin.

There is a close relationship between chronic gastritis and H. Pylori infection as reported by many investigations, thus revealing that about 75% patients with chronic gastritis have H. Pylori infection compared to 10% in those without gastritis. H Pylori infection once established persists throughout life and generally remains asymptomatic in many cases. The rate of infection increase with age and its frequency is related to the stage of social development of the people. Infection of H. Pylori spreads either by eatables, direct contact or by vectors. However exact route of transmission is not known but it may be transmitted through Oro-oral route, Gastro oral route, Faeco-oral route and also transmits from one patient to another by inadequately disinfected endoscope. In the third book of Canon of Medicine, Avicenna describes the diseases of internal organs, in particular to detailed description of symptoms of gastritis and gastric ulcer, close to the modern description, i.e., vomiting, pain, heartburn, and, in some cases, bleeding. In Canon of Medicine, Avicenna provides data on diseases of the stomach and intestines as a reaction of the organism to changing environmental conditions and violation of specific forms of adaptability of the organism.

Some of the causes according to the etiology of acute gastritis and chronic gastritis are as under:

- Infection with bacterium helicobacter pylori.
- > Excess consumption of alcohol.
- ➤ Administration of drugs like anti-inflammatory drugs.
- Trauma by nasogastric tube.

- Repeated exposure to radiation.
- Autoimmune diseases.

VIII. Treatment Gastritis (Warm-e-Meda) in Unani System of medicine.

In Unani system of medicine plants, animals as well as mineral origin drugs are being used for the treatment of gastritis without any known side effects. Some of the commonly used single drugs (Adviya mufrida) are.

- ➤ Elva (Aloe barbadensis Mill)
- ➤ Khulanjan (Alpinia galanga Willd)
- ➤ Khatami (Althaea rosea Linn)
- ➤ Gaozaban (Anchusa strigosa Labill)
- Asl-us-soos (Glycyrrhiza, glabra Linn)
- ➤ Haldi (Curcuma longa Linn)
- Satawar (Asparagus racemosus Willd)
- ➤ Bael (Aegle marmelos Correa)
- Jaiphal (Myristica fragrans Houtt)
- Compound drugs (Adviya murakkaba) recommended are:
- Majoon Dabidul Ward,
- Jawarish Anarain,
- > Sharbat Anar,
- Majoon Zanjbil,
- Asgandh (Withania somnifera Linn)
- ➤ Bhuineem (Andrographis paniculata Wall)
- ➤ Adrak (Zingiber officinale Rosc)
- Kuttki (Picrorhiza Kurroa Royle)
- > Amla (Emblica officinalis)
- ➤ Kalonji (Nigella sativa Linn)
- ➤ Karela (Momordica charantia Linn)
- > Jawarish Mastagi,
- Qurs Satawari,
- > Itrifal Aftimoon,
- Sharbat Unnab and
- Khammeera Sandal.

These are suggested by Unani physicians for the treatment of chronic gastritis and their efficacy against gastritis has also been tested by in vivo and in vitro studies. Mode of action of these drugs are both systemic and local. Apart from the correction of altered mizaj (temperament), these drugs produce soothing effect on the inflammed mucosa, provide ground material for factors healing, removes the responsible inflammation and also provide antiseptic or antibacterial effect. Further unani physicians have suggested different medicines in different seasons, regions and mizaj like Aslus-soos, as Aslus-soos (Glycirrhiza glabra)/licorice. They reduces gastric secretion, produces thick mucus which protects the lining of stomach from inflammation and ulceration. It also contains flavonoids, so it hold antiinflammatory and anti-bacterial effect. Aspaghol musallam (Plantago ovata) is a water soluble seed husk polysaccharides promote production, maintenance and wound healing properties in guinea pigs. (Pistacia lentiscus) is cytoprotective and has mild antisecretory effect and is useful for the healing of gastric and duodenal ulcer. Samagh-e-arabi (Acacia arabica) contains tannins, saponins, glycosides, phenols, terpenes

and flavonoids which can be easily hydrolysed, this property of samagh-e-arabi attribute to anti-bacterial and anti-inflammatory result.

IX. Herbal Treatments of Gastritis (Warm-e-Meda)

Leaves of the Olive plant Olea europea, have many health benefits. In order to determine whether the benefits extend to treating stomach ailments, a study was carried out, in which gastritis was induced in rats by damaging their gastric mucosa via administration of hydrochloric acid/ethanol. Ithad to be verified if extracts from olive leaves could protect the epithelial lining from getting damaged. Before administering the ethanol and hydrochloric acid, two hundred and three hundred mg/kg of olive leaf extract were administered. The experiment was successful since the induced gastritis was fully prevented in this manner. In addition, the olive leaf extract provided an anti-inflammatory effect by decreasing the numbers of different inflammatory factors. A boost was also seen in the gastric antioxidant activity as the extract promoted different antioxidant enzymes and molecules such as superoxide dismutase, glutathione reductase, glutathione peroxidase and catalase. Thus, it was determined that this natural remedy was exceptionallytherapeutic against gastritis. [4]

In Nepal, there exists a Chepang community which for a longtime has been using medicinal plants to treat various diseases. A two-year long study was carried out in which information was gathered via questionnaires. It was discovered that twenty-two different species of plants were used for curing gastritis. Different parts of different species were used, such as the bulb of Allium sativum and the barks of Betula alnoides and Diploknema butyracea, the latter whose seed was also used for its gastroprotective effect. The leaves of Cissampelos pariera and Ocimum basilicum were used along with the root of Curculigo orchioides. Lindera neesiana provided the medicinal fruits and stem juice was extracted from Marsdenia roylei. [10] Aside from the Chepang community, there is also the Lepcha community (in East Nepal), where medicinal properties of multiple different plants species have been utilised over the years. A survey took place in the summer of 2015 and it was recorded that most of the plants were used to treat GIT disorders. For the treatment of gastritis in particular, Zanthoxylum oxyphyllum, Lindera neesiana, Phyllanthus emblica, Terminalia bellirica and Stephania glandulifera, along with many other species were utilized. [11]

Oats are an important cereal and provide numerous nutritional and health benefits. In a recent study by Suchecka and team, a molecule present in oats, called beta-glucan, was investigated for its potential in prevention of gastritis. Gastritis was induced in rats by the administration of sodium deoxycholate, which mimics bile to an extent, causing acute inflammation of the stomach lining. The acute gastritis could lead to chronic gastritis and eventually gastric cancer if it does not recede; therefore, it is of utmost importance to treat

the acute gastritis so as to prevent chronic gastritis. In this experiment, two different molecular weight fractions of beta- glucan (high molecular weight and low molecular weight) were given to the rats. The results showed that both of the beta-glucan fractions enhanced the overall antioxidant activity in the gastric environment, effectively lessening the inflammation of the gastric mucosal epithelial lining. This indicated that beta-glucan of oats does have a therapeutic and/or preventive effect against gastritis. However, oat bran may cause irritation in individuals who are unable to take in cellulose; and so for cases such as those, the beta-glucan fractions can be extracted from the oat, purified and given as supplements to patients suffering from gastritis, effectively resolving the issue with their dietary restrictions.[12]

Aside from using natural herbal treatments to cure gastritis, some employ a mixture of both the herbal therapies and conventional medicine. The Chinese and neighboring nations have harboured the use of herbal extracts and essences in treating atrophic gastritis. Clinical trials showed that when Chinese herbal therapies were used alongside conventional medicines, there was a greater alleviation of symptoms and an increased anti-inflammatory response, compared to when only conventional western medicine regimens were used. Medicinal herbs that showed significant antimicrobial activity against H. pylori comprised of Saussurea lappa, Eugenia caryophyllata and Abrus cantoniensis. [13]

X. Conventional Western Medicine for Gastritis (Warm-e-Meda)

Gastritis is mostly caused by H. pylori infection, which requires proper antimicrobial treatment. In order to treat gastritis without misusing the antibiotics and minimizing their overall use, great care has to be taken in deciding the antibiotic regimens. Two first-line options have been recommended. The first one involves the _concomitant therapy'. This includes four drugs that are to be taken in combination. They include a proton pump inhibitor, clarithromycin, metronidazole and amoxicillin. Then, there is the fourteen-day long bismuth-containing quadruple therapy'. This regimen involves four drugs that are to be taken together in combination, including bismuth, metronidazole, tetracycline and a proton pump inhibitor. [14] There is however an issue with the concomitant therapy, as it is not as highly effective as it was before. Quite a few times, this therapy has become unsuccessful due to the problem of bacterial resistance that has developed against the antibiotic clarithromycin, and as the resistance is gradually increasing worldwide, the success rate of this therapy is getting lower and lower. In order to overcome this issue, in Uruguay, Dacoll and colleagues designed an optimised regimen in which they made some changes and removed clarithromycin completely. A fourteen-day trial was carried out which involved the combination of high doses of amoxicillin and metronidazole with the proton pump inhibitor- esomeprazole. Five hundred milligrams

of metronidazole and one gram of amoxicillin were administered thrice a day, while forty milligrams of the proton pump inhibitor were administered twice a day. The high doses of both metronidazole and amoxicillin were efficient in eradicating H. pylori, including the clarithromycin-resistant strains, all with minimal side effects. The patient tolerance to this therapy was monitored and approved. This optimised therapy has turned out to be a decent alternative, especially for those regions where clarithromycin resistance is spreading.^[15]

For eradication of H. pylori to cure gastritis, there exists a triple therapy that involves the combination of twenty milligrams of omeprazole (a proton pump inhibitor), one gram of amoxicillin and five hundred milligrams of clarithromycin, which are administered twice a day, for a fixed number of days. A controlled and randomised clinical trial was carried out by Tan and her team to determine the effect of adding polaprezinc to the triple therapy. One group was given the triple therapy only while the other group was given polaprezinc along with the triple therapy. The results of this trial showed that the eradication of H. pylori was higher in the group which was given polaprezinc along with the triple therapy. Additionally, there was no added toxicity since the gastro-protective polaprezinc is an antioxidant with antiinflammatory properties.^[16]

Bismuth also has gastro-protective and antimicrobial properties. A prospective randomised study led by Wang and colleagues was carried out in China from 2011 to 2013, to determine the effectiveness of adding bismuth to the triple therapy of clarithromycin, omeprazole and amoxicillin. The patients were given either the ten day long triple therapy which consisted of a combination of clarithromycin, omeprazole and amoxicillin, or they were given the alternative therapy- the ten-day long bismuth quadruple therapy, which consisted of the previously mentioned triple therapy plus one hundred and twenty milligrams of bismuth sub-citrate. The results of this trial showed that the bismuth quadruple therapy was more effective as a first-line treatment than the triple therapy itself since the eradication of H. pylori, and thus the subsequent treatment of chronic gastritis was higher when the former was administered. There was also

increased anti-inflammatory activity and greater symptomatic benefits. Furthermore, patients who suffered from antibiotic resistance showed remarkable recovery when administered with the bismuth quadruple therapy, even if they had gained no benefit from other previous therapies. [18,19]

XI. Probiotic Therapy for Gastritis (Warm-e-Meda)

Probiotics have been a hot topic in the scientific community and since they are essentially related with gut health, it is not a surprise that they are being thought of as viable therapeutic agents to cure gastritis. Probiotics have been considered for their antibacterial effect against Helicobacter pylori as they are involved in improving the antibiotic tolerability and have the helpful advantage of decreasing the adverse effects. [20,21] Hence they can be useful for patients who have difficulty with compliance as they help tolerate the antibiotics. [14] Probiotics such as Bifidobacterium, Lactobacillus and Saccharomyces boulardii, when given in combination with triple therapy, greatly reduce side effects of the aforementioned therapy. They also come in use when there are cases of antibiotic resistance populations. [22,23]

XII. Gastritis & Natural Remedies

In the Middle Ages it was thought that the stomach "cooled" from time to time, and thereby could not effectively "cook" food. In addition, and following the same line of thinking, a cold stomach constricts, thus reducing appetite, and leaving one with a feeling of being "tied-up internally". Similarly, Hildegard of Bingen described these symptoms and recommended yarrow as the herb of choice.

Get Treatment for a Stomach Ulcer Under no circumstances should a stomach ulcer or prolonged stomach discomfort be treated through self-medication. For occasional or acute gastritis that has been properly diagnosed by a medical professional, the following treatment strategy may help support the healing process and relieve certain symptoms:

A. Pain Relief: medicinal plants can help with pain relief and provide for effective treatment of acute gastritis by supporting compromised mucous layers in the stomach lining.



Fig. 5 Yarrow Herbs used in Gastritis.



Fig. 6 Chamomile Used in Gastritis

B. Treating Inflammation: Anti-inflammatory antimicrobial agents help support the healing process.

Chamomile flowers and yarrow (herbs or flowers) have anti-inflammatory, pain-relieving, and antimicrobial properties. In addition, they improve blood circulation and prevent convulsion. The following Gastritis Natural Remedies are worthwhile:

- (1) Chamomile Leaf Tea.1 heaping tablespoon of Chamomile leaves along with a cup of boiling water.
- Let steep for 10 minutes, then drain. Drink the tea plain and in small sips. Drink 3-4 cups, daily. In acute cases of gastritis, drink every 30 minutes.
- (2) Yarrow herb and Yarrow flowers.2 heaping teaspoons of yarrow herb and flowers, combined with a quart of boiling water. Allow 15 minutes to steep and strain. Drink 1 cup 30 minutes before meals, up to 5 cups daily. Learn more about yarrow in our post 7 Yarrow Health Benefits.
- (3) Flaxseed Gastric Mucous Cleanse



Fig. 7 Fenugreek Used in Gastritis.



Fig. 8 Fruits Used in Gastritis.

Natural forms of mucilage, found in flaxseed and psyllium are used to restore gastric mucosa in the stomach lining. The flaxseed is particularly effective for this purpose. Use flaxseed in the following preparation for a gastric mucous cleanse.

Soak crushed flaxseed overnight in a quart of water. Boil and strain through a fine cloth or sieve. The resulting mixture has a gelatinous texture, which can be consumed warm over the course of a day. Always insure adequate water intake while taking flaxseeds.

C. Pay close attention to your nutrition

In addition, one should pay close attention to their diet and nutrition. Think of Hildegard's Medieval Diet, and avoid foods served too hot or cold; limit the intake of alcohol, nicotine and spicy dishes. Extremely sweet or sour foods can also lead to additional discomfort. Consider the following gastritis natural remedies and foods.

- Rhizomes and bulbs: Ginger, Galangal, and Garlic
- Fermented foods: Kimchee, Miso, Sauerkraut, and Kefir

If discomfort related to gastritis occurs primarily on an empty stomach, Hildegard of Bingen would recommend taking fennel seed powder or fennel tablets, before meals and before bedtime to serve as a natural acid reducer.

D. Follow an anti-inflammatory diet

Gastritis refers to inflammation of the stomach lining, so consuming a diet that helps minimize inflammation may provide relief over time. However, research has not conclusively shown that eating a certain diet causes or prevents gastritis. Nevertheless, people can try to identify which foods trigger their symptoms by keeping a food diary. According to a 2020 study, some foods that may worsen gastritis include:

- Meat products
- Sugary foods
- > Spicy foods
- > Fried foods
- ➤ Alcohol

E. Take a garlic extract supplement

Some research suggests that garlic extract can help reduce the symptoms of gastritis caused by the H. pylori bacteria. Crushing raw garlic and eating it may also work well.



Fig. 9 species Food avoid Gastritis

Fig. 10 alcohol Prohibited Gastritis

F. Drink green tea with manuka honey

One study showed that drinking green tea or black tea at least once a week could significantly reduce the presence of *H. pylori* in the digestive tract. Manuka honey may

also be beneficial, as it contains antibacterial properties that help fight infection. It is available to buy in health stores and online.



Fig. 11 Green Tea Used in Gastritis

Fig. 12 Apple Used in Gastritis

G. Use essential oils

Essential oils that may positively affect gastritis symptoms include peppermint, ginger, and clove. People may wish to use the oils in a diffuser or consult a doctor about using them safely to help relieve gastritis. It is essential that people do not ingest essential oils. Consumption of these oils can lead to severe side effects and complications. It is important to note that the Food and Drug Administration (FDA) does not regulate essential oils or alternative medication.

H. Eat lighter meals

Eating large, carbohydrate-heavy meals can put a strain on a person's digestive system and aggravate gastritis. A 2020 study also showed that having irregular mealtimes may cause a flare-up in gastritis symptoms. Eating small meals regularly over the course of the day

can help ease the digestive process and reduce the symptoms of gastritis.

I. Quit smoking

Smoking can damage a person's stomach lining and increase their risk of developing stomach cancer. Stopping smoking may decrease the irritation to a person's stomach lining, allowing it to heal and helping alleviate the symptoms of gastritis.

J. Reduce stress

Stress can cause gastritis flare-ups, so reducing stress levels is an important way to help manage the condition. Stress management techniques include:

- Massage
- Meditation
- Yoga
- Breathing exercises



Fig. 13 Yoga Helpful in Gastritis.

XIII. Prevention of Gastritis

It is very important to rule out the cause of tukhma (indigestion). If this indigestion is caused by water, then water should be changed. If food is the cause, then the quantity of food should be reduced. A proper diet should be taken. If the cause is "Zof-e-Meda", zimaad (paste) should be applied. According to Jalinoos, gairooti is beneficial for a chronic condition; Iqlilul Malik (Trigonella uncata) is used in paste form. If sour belching is present, consuming 4 gm of dry coriander before food has proved to be beneficial. It should be used before night meals. Hammam is useful. Lukewarm water should be used and vomiting may be recommended repeatedly to expel all the morbid material from the body. After this, Roghan should be applied on the head. "Takmeed" should be practised. Dalak of hands and foot should be done by "Roghan-e-Zaitoon". Sound sleep should be taken at night.

CONCLUSION

Gastritis is one such disease that has been a huge inconvenience for a large percentage of the human population. Along with the advancement of knowledge in the fields of pathology, physiology and enzymology, improved treatments for curing this disease have recently been discussed. Many natural herbal treatments have proven to be effective, promoting the anti-inflammatory and anti-oxidant activity in the gastric environment. The herbal medicine may also be given in combination with the conventional western medicinal drugs, and this has actually given encouraging results. As for the conventional medical treatments, there have been changes in regimens, as the first line treatments that were previously used have now been rendered unsuitable

for some patients, especially those suffering from antibiotic resistance. Hence, some factors had been optimized or modified in those treatments, and the successful clinical trials assisted in proving their validity and reliability. Probiotics are also being considered for their potential benefits in this area.

REFERENCES

- 1. Jeon, W.Y., Lee, M.Y., Shin, I.S., Jin, S.E., Ha, H., Curcuma aromatic water extract attenuates ethanol- induced gastritis via enhancement of antioxidant status, J Evid Based Complementary Altern Med, 2015; 582496.
- 2. El-Serag, H.B., Time trends of gastro esophageal reflux disease: a systematic review, Clin Gastro enterol Hepatol, 2007; 5(1): 17–26.
- 3. Xiang, Z., Si, J.M., Huang, H.D., —Chronic gastritis rat model and role of inducing factors, World J Gastro enterol, 2004; 10(21): 3212–3214.
- 4. Al-Quraishy, S., Othman, M.S., Dkhil, M.A., Moneim, A.E.A., Olive (Olea europaea) leaf methanolic extract prevents HCl /ethanol-induced gastritis in rats by attenuating inflammation and augmenting antioxidant enzyme activities, Biomed Pharma cother, 2017; 91: 338-349.
- 5. Sostres, C., Gargallo, C.J., Lanas, A., —Interaction between Helicobacter pylori infection, nonsteroidal anti- inflammatory drugs and/or low-dose aspirin use: old question new insights, | World J Gastroenterol, 2014; 20(28): 9439–9450.
- 6. Thung, I., Aramin H., Vavinskaya, V., Gupta, S., Park J.Y., Crowe, S.E., Valasek, M. A., —Review article: the global emergence of Helicobacter pylori antibiotic resistance, Aliment Pharmacol Ther.,

- 2016; 43(4): 514-533.
- 7. Atherton, J.C., Goddard, A.F., —Gastritis, peptic ulceration and related conditions, | Infectious diseases, 2nd ed. London: Mosby, 2004; 469-75.
- 8. Marshall, B.J., Armstrong, J.A., McGechie, D.B., Glancy, R.J., Attempt to fulfil Koch's postulates for pyloric Campylobacter, Med J Aust, 1985; 142(8): 436-439.
- Malfertheiner, P., Megraud, F., O'morain, C.A., Gisbert, J.P., Kuipers, E.J., Axon, A.T., Bazzoli, F., Gasbarrini, A., Atherton, J., Graham, D.Y. and Hunt, R., Management of Helicobacter pylori infection—the Maastricht V/Florence consensus report, Gut, 2016; 66(1): 6-30.
- 10. Tamang, R., Thakur, C., Koirala, D., Chapagain, N., Ethno-medicinal. Plants Used by Chepang Community in Nepal, || J Plant Resour, 2017; 15(1): 21-30.
- 11. Bhattarai, K.R., Ethnomedicinal Practices of the Lepcha Communityin Ilam, East Nepal, J Plant Resour, 2017; 15(1): 31-44.
- Suchecka, D., Błaszczyk, K., Harasym, J., Gudej, S., Wilczak, J., Gromadzka-Ostrowska, J., Impact of purified oat 1-3, 1-4-β-d-glucan of different molecular weight on alleviation of inflammation parameters during gastritis, J Funct Food, 2017; 28: 11-18.
- 13. Fang, W.J., Zhang, X.Y., Yang, B., Shu-jing, S., Chen, M., Wei-hua, P., Wan-qing, L., Zhong, M., Wang, Q.C., Chinese herbal decoction as a complementary therapy for atrophic gastritis: a systematic review and meta- analysis, Afr J Tradit Complement Altern Med., 2017; 14(4): 297-319.
- 14. Graham, D.Y., —Treating Helicobacter pylori effectively while minimizing misuse of antibiotics, Cleve Clin J Med., 2017; 84(4): 310-318.
- Dacoll, C., Sánchez-Delgado, J., Balter, H., Pazos, X., Di Pace, M., Sandoya, G., Cohen, H., Calvet, X., —An optimized clarithromycin-free 14-day triple therapy for Helicobacter pylori eradication achieves high cure rates in Uruguay, Gastroenterol Hepatol, Feb. 21, 2017; 40(7): 447-454.
- 16. Tan, B., Luo, H.Q., Xu, H., Lv, N.H., Shi, R.H., Luo, H.S., Li, J.S., Ren, J.L., Zou, Y.Y., Li, Y.Q., and Ji, F., Polaprezinc combined with clarithromycin-based triple therapy for Helicobacter pylori-associated gastritis: A prospective, multicenter, randomized clinical trial, PLoS One, 2017; 12(4): e0175625.
- 17. Wang, L., Lin, Z., Chen, S., Li, J., Chen, C., Huang, Z., Ye, B., Ding, J., Li, W., Wu, L. and Jiang, Y., —Ten-day bismuth-containing quadruple therapy is effective as first-line therapy for Helicobacter pylori—related chronic gastritis: a prospective randomized study in China, Clin Microbiol Infect, 2017; 23(6): 391-395.
- Ciccaglione, A.F., Tavani, R., Grossi, L., Cellini, L., Manzoli, L., Marzio, L., —Rifabutin Containing Triple Therapy and Rifabutin with Bismuth Containing Quadruple Therapy for Third-Line

- Treatment of Helicobacter pylori Infection: Two Pilot Studies, Helicobacter, 2016; 21(5): 375-381.
- 19. Muller, N., Amiot, A., Le Thuaut, A., Bastuji-Garin, S., Deforges, L. and Delchier, J.C., —Rescue therapy with bismuth-containing quadruple therapy in patients infected with metronidazole-resistant Helicobacter pylori strains, Clin Res Hepatol Gastroenterol, 2016; 40(4): 517-524.
- 20. Homan, M., Orel, R., —Are probiotics useful in Helicobacter pylori eradication?, World J Gastroenterol, 2015; 21(37): 10644–10653.
- 21. Zhang, M.M., Qian, W., Qin, Y.Y., He, J., Zhou, Y.H., Probiotics in Helicobacter pylori eradication therapy: a systematic review and meta-analysis, World J Gastroenterol, 2015; 21(14): 4345-4357.
- 22. Szajewska, H., Setty, M., Mrukowicz, J., Guandalini, S., —Probiotics in gastrointestinal diseases in children: hard and not-so-hard evidence of efficacy, | J Pediatr Gastroenterol Nutr., 2006; 42(5): 454-475.
- 23. Wang, Z.H., Gao, Q.Y., Fang, J.Y., —Meta-analysis of the efficacy and safety of Lactobacillus-containing and Bifido bacterium-containing probiotic compound preparation in Helicobacter pylori eradication therapy, J Clin Gastroenterol, 2013; 47(1): 25-32.