PEPTIC ULCERS

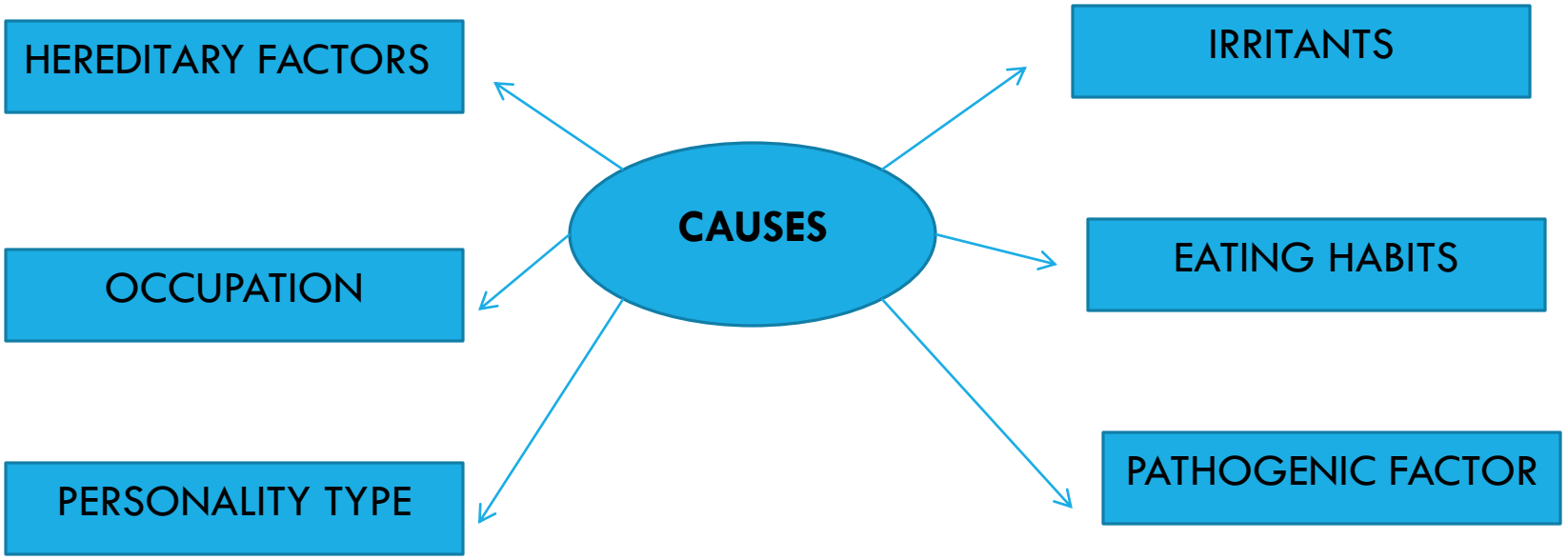
A Peptic ulcer is any localized erosion or disintegration of the mucosal lining of those portions of the alimentary tract that come in contact with acidic gastric juice. The disintegration can result in necrosis of tissues.

Mostly ulcers are found in stomach, jejunum and in duodenum above the point of alkaline pancreatic juices.

Gastric ulcers occur in the lesser curvature of the antrum of stomach. A gastric ulcer appears to be caused by reflux of bile and factors that disrupt the mucosal barrier permitting the hydrogen ions to diffuse into the mucosal issue where they cause damage.

ETIOLOGY

Peptic ulcers can occur at any age but the incidence is highest in middle adulthood between the age group of 45-55 years. Ulcers occur mostly in men than in women.



SYMPTOMS

- Pain or discomfort in upper central abdomen
- Burning or pressing pain in stomach (empty stomach: duodenal ulcers, after meals: gastric ulcers)
- Heart burn
- Vomiting
- Subsequent weight loss

BIOCHEMICAL TESTS

Laboratory tests for H. pylori. Your doctor may recommend tests to determine whether the bacterium H. pylori is present in your body. He or she may look for H. pylori using a blood, stool or breath test. The breath test is the most accurate. Blood tests are generally inaccurate and should not be routinely used.

For the breath test, you drink or eat something that contains radioactive carbon. H. pylori breaks down the substance in your stomach. Later, you blow into a bag, which is then sealed. If you're infected with H. pylori, your breath sample will contain the radioactive carbon in the form of carbon dioxide.

If you are taking an antacid prior to the testing for H pylori, make sure to let your doctor know. Depending on which test is used, you may need to discontinue the medication for a period of time because antacids can lead to false-negative results.

Endoscopy. Your doctor may use a scope to examine your upper digestive system (endoscopy). During endoscopy, your doctor passes a hollow tube equipped with a lens (endoscope) down your throat and into your esophagus, stomach and small intestine. Using the endoscope, your doctor looks for ulcers.

If your doctor detects an ulcer, small tissue samples (biopsy) may be removed for examination in a lab. A biopsy can also identify whether H. pylori is in your stomach lining.

Your doctor is more likely to recommend endoscopy if you are older, have signs of bleeding, or have experienced recent weight loss or difficulty eating and swallowing. If the endoscopy shows an ulcer in your stomach, a follow-up endoscopy should be performed after treatment to show that it has healed, even if your symptoms improve.

Upper gastrointestinal series. Sometimes called a barium swallow, this series of X-rays of your upper digestive system creates images of your esophagus, stomach and small intestine. During the X-ray, you swallow a white liquid (containing barium) that coats your digestive tract and makes an ulcer more visible.

MANAGEMENT

The chief objective in the management of peptic ulcersw is to provide physiological rest and support tissue healing. Treatment is therefore, based on drug therapy, rest and diet modification.

DRUGS: Healing of ulcers is aided by two main types of drugs- antacids and inhibitors of gastric acid secretion. Magnesium hydroxide and Aluminum hydroxide are very effective antacids and Cimetidine and Ranitidine are for gastric acid inhibition.

REST: Both physical and mental rest are essential. The rest is aided y sedative therapy or alternative stress reduction therapy like yoga and meditation.

NUTRITIONAL MANAGEMENT

The immediate objectives of dietary treatment are:

- to provide adequate nutrition
- To afford rest to the gastro-intestinal tract
- To maintain continuous neutralization of gastric acid
- To minimize acid secretion
- To reduce mechanical, chemical , and thermal irritation to the gastric mucosa.

NUTRIENT MODIFICATIONS

ENERGY

- If undernourished, an increased energy intake.
- In acute cases since they are confined to bed, no extra energy is required.
- If the patient is ambulatory, 10% increase in energy take.

PROTIENS

A high protein intake is recommended to provide essential amino acids for tissue protein synthesis and thus promote healing. Proteins are also included because of their good buffering action. They may be increased about 25-50%.

Meat extractives have a stimulating effect, hence, should be avoided. However, milk protein has a good buffering action and has adverse effect on healing but should be given in moderation.

Eggs, pulses and other protein good need to be added to provide essential amino acids.

FATS

Fat delays the emptying of the stomach, an increased intake is beneficial. Nearly 20% of total energy should be provided by fats. Emulsified fats like butter, cream etc are better tolerated. Fried foods should be avoided.

CARBOHYDRATES

Carbohydrates are included to meet the energy needs at around 55-65%of the total energy intakes, foods containing harsh, irritating fiber should be avoided. Emphasis should be based on consumption of both simple and complex carbohydrates but n soft, cooked form.

VITAMINS

Requirements of nearly all vitamins remain normal. Adequate amounts of vitamin should be provided for healing ulcers and better iron absorption.

MINERALS

Care should be taken to include sources of iron calcium in the diet. Generally, bland diets are found to be low in iron and vitamin C due to the restriction in fruits and vegetables and medicinal supplements may have to be given.

TREATMENT

Treatment for peptic ulcers depends on the cause. Usually treatment will involve killing the H. pylori bacterium, if present, eliminating or reducing use of NSAIDs, if possible, and helping your ulcer to heal with medication.

Medications can include:

Antibiotic medications to kill H. pylori. If H. pylori is found in your digestive tract, your doctor may recommend a combination of antibiotics to kill the bacterium. These may include amoxicillin (Amoxil), clarithromycin (Biaxin), metronidazole (Flagyl), tinidazole (Tindamax), tetracycline (Tetracycline HCL) and levofloxacin (Levaquin).

The antibiotics used will be determined by where you live and current antibiotic resistance rates. You'll likely need to take antibiotics for two weeks, as well as additional medications to reduce stomach acid, including a proton pump inhibitor and possibly bismuth subsalicylate (Pepto-Bismol).

Medications that block acid production and promote healing. Proton pump inhibitors — also called PPIs — reduce stomach acid by blocking the action of the parts of cells that produce acid. These drugs include the prescription and over-the-counter medications omeprazole (Prilosec), lansoprazole (Prevacid), rabeprazole (Aciphex), esomeprazole (Nexium) and pantoprazole (Protonix).

Long-term use of proton pump inhibitors, particularly at high doses, may increase your risk of hip, wrist and spine fracture. Ask your doctor whether a calcium supplement may reduce this risk.

Medications to reduce acid production. Acid blockers — also called histamine (H-2) blockers — reduce the amount of stomach acid released into your digestive tract, which relieves ulcer pain and encourages healing.

Available by prescription or over-the-counter, acid blockers include the medications ranitidine, famotidine (Pepcid), cimetidine (Tagamet HB) and nizatidine (Axid AR).

Antacids that neutralize stomach acid. Your doctor may include an antacid in your drug regimen. Antacids neutralize existing stomach acid and can provide rapid pain relief. Side effects can include constipation or diarrhea, depending on the main ingredients.

Antacids can provide symptom relief, but generally aren't used to heal your ulcer.

Medications that protect the lining of your stomach and small intestine. In some cases, your doctor may prescribe medications called cytoprotective agents that help protect the tissues that line your stomach and small intestine.

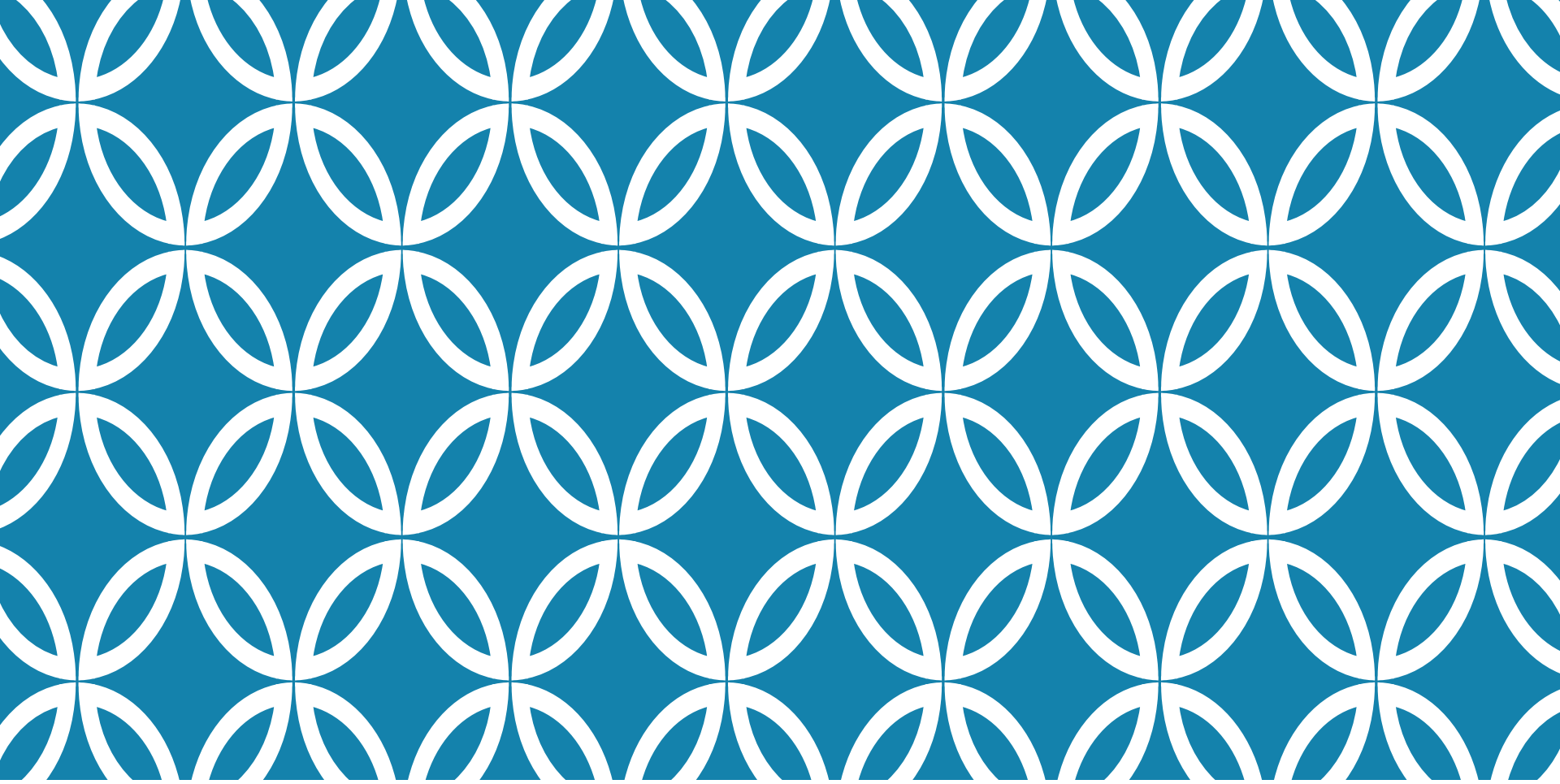
Options include the prescription medications sucralfate (Carafate) and misoprostol (Cytotec).

PREVENTIVE ASPECTS

- pH of food
- Foods that damage GI mucosa
- Alcohol
- Cigarette smoking
- Food textures
- Gas formers
- Meal frequency

FOODS TO BE AVOIDED

Fatty and tough meats, fried foods, strong spices and condiments, pickles, strong tea, coffee and alcoholic beverages, strongly flavored vegetables like cabbage, turnip, radish, garlic, onion etc.



ULCERATIVE COLITIS

Ulcerative colitis is a diffuse inflammatory and ulcerative disease of unknown etiology involving the mucosa and sub muscosa of the large intestine. It occurs at any age but predominates in young adults.onset is insidious in most of the cases.

ETIOLOGY

No single etiological factor has been identified although genetic auo-immune factors are thought to be involved. Precipitation of the symptoms is more likely during conditions of mental tension emotional stress. Allergy to certain foods especially milk may be a factor in precipitating at the diseases.

Altered response to gut microorganisms

Immune dysregulation

SYMPTOMS

The common symptoms are mild abdominal discomfort with an urgent need to defecate several times day. There may be diarrhoea accompained by rectal bleeding. While edemtous and hyperemic mucosa is seen in early stages, necrosis and frank ulceration of the muosa occurs in advanced stages.

- malnutrition leading to weight loss.
- Muscle cramps
- Wasting
- Growth retardation
- Anemia, osteopenia, odemea

BIOCHEMICAL TEST

Plain Abdominal X-ray:

Useful predominantly in patients with symptoms of severe or fulminant colitis.

Images may show

colonic dilatation with loss of haustral markings , suggesting toxic megacolon

Evidence of perforation; obstruction; or ileus.

- **Barium Enema:** It can be useful for detecting active ulcerative disease, polyps, or masses.
  - The colon typically appears granular and shortened.

- **CT scan:** Loss of haustra, especially in the distal colon
  - Pseudopolyps
  - Chronic cases - a narrow , featureless , shortened ‘hosepipe’ colon

Treatment goals

- Induction of remission
- Maintenance of remission.

- Prevention of complications
  - Therapy related- allergies/ intolerance, infections, lymphoma, steroid side effects
  - Disease related- EIM's, neoplasia, toxic megacolon

NUTRITIONAL MANAGMENT

Since the disease develops gradually, proper dietary management is important for maintaining a good nutritional status of the patient. The management is usually long term. Individualised diet management is needed depnding on the extent of disease and degree of malnutrition. The tolerance for various foods varies greatly from one patient to another.

ENERGY

energy needs to be increased to compenate the increased BMR and accompanying weight loss. Energy is also needed to support growth especially in adoloscents. An intake of 40-50kcal/kg ideal body weight/day is therefore recommended.

PROTEINS

- Patients with ulcerative coliti lose significant amounts of fecal nitrogen daily. In severe ulcerative colitis, 20gm nitrogen may be lost daily.
- The serum albumin is also low.
- Proteins are therefore necessary for compensating the increased losses in stool daily as well as for tissue healing.
- Liberal amounts of protein is needed, 1.5g/kg/ideal bosy weight/day.
    - Foods like tender meats, milk, fish, poultry and eggs are recommended.

FLUIDS

a liberal intake of fluids is given to prevent dehydration.

FATS

- Foods that contain fats(invisible fats), are permitted but not fried foods, as they are not eaisly digested due to liver dysfunction. Fats rich in medium chain triglycerides should be preferred as they are easily utilised.
- Fat intake canbe kept close to 5-60g with visible fat intake less than 25-30g/day.

CARBOHYDRATES

- They form eaisly absorbable source of energy.
- High fibre vegetables are restricteas to reduce bulk of the diet.
- Sugars and starches can be used liberally to meet energy needs.

FIBRE

Eliminating roughage has a beneficial effect on prevening relapses of the disease.a low residue diet may be give during acute attack to prevent severe bleeding during diarrohea.

So only some level of fibre is recommended.

VITAMINS

Multivitamin supplements may be recommended to meet the increased needs and aid in healing.

MINERALS

Minerals losses may be marked and unless replaced may contribute total fatal outcome.sodium intake can be increaased by sprinlking additional salt in foods.