

## PART IV.

# DISEASES OF THE DIGESTIVE SYSTEM.

## I. DISEASE OF THE MOUTH.

### ACUTE STOMATITIS.

**Definition.**—An acute inflammation of the mucous membrane of the mouth, occurring most frequently in children, though no age is exempt.

**Etiology.**—The causes that give rise to stomatitis are generally local, though it may rise from gastric or intestinal derangements, chemical and mechanical irritants being the most common, such as sharp edges of broken or carious teeth; very hot drinks, such as tea and coffee; highly spiced food; tobacco, both chewing and smoking; irritating dust inhaled at certain work, such as lime, coal, marble, and workers in various minerals; the corrosive acids or alkalies; and sometimes from the decomposition of food lodged between the teeth, and fetid cavities. It may also be caused by dentition, or follow the eruptive fevers.

**Symptoms.**—The inflammation is attended by the following symptoms: heat, pain, redness, and swelling. At first the mouth is dry and hot, with a burning, smarting sensation; but soon secretion is established, and mucus and saliva are found in excess. This condition is often called catarrhal stomatitis. Mastication is painful, and hot drinks, and coarse food give rise to pain. The tongue is coated, the breath is fetid, and the child becomes peevish and cross. In a few days the disease loses its angry character, the inflammation becomes subacute, while the mouth is bathed in aropy, offensive mucus.

**Diagnosis.**—The diagnosis is easily made. The red, inflamed character of the mucous membrane; the tenderness, the burning sensation, dry mouth, followed by hypersecretion of mucus, are symptoms which can not be mistaken for those of any other trouble.

**Prognosis.**—The prognosis is favorable, the disease usually giving way in a week or ten days.

**Treatment.**—This is simple and quite successful. After thoroughly cleansing the mouth with a weak solution of pyrozone, or a wash of

boracic acid, or, better still, a solution of hydrastin and chlorate of potassium, we prescribe phytolacca ten drops, and water four ounces; a teaspoonful every hour. As a mouth-wash I know of nothing to equal the phosphate of hydrastia and chlorate of potassium. If there are any gastric or intestinal complications, remedies should at once be used to correct these wrongs. If there should be fever, combine aconite with the phytolacca, and give every hour. The mouth should be kept sweet and clean. The diet should consist of liquid food; warm drinks are more agreeable than very cold or very hot fluids.

## **APHTHOUS STOMATITIS.**

**Synonyms.**—Follicular Stomatitis; Disseminated Vesicular Stomatitis; Fibrinous Stomatitis.

**Definition.**—A variety of stomatitis, characterized by small, round, white patches upon the mucous membrane of the tongue, gums, and cheeks. Small vesicles appear upon an inflamed base, and later form small ulcers.

**Etiology.**—This variety usually occurs in children under three years of age, though it may occur at any period of life. It may accompany the acute infectious diseases, and occasionally occurs as an epidemic. An impoverished condition of the blood favors the disease, as well as poor hygienic surroundings; gastro-intestinal disorders also predispose to this lesion, while Strumpell believes the milk from cows suffering from the hoof and mouth disease, is an exciting cause.

The time of the year may also be considered a factor in this disease, spring and fall being the seasons when colds prevail and intestinal disturbances are common.

**Symptoms.**—The mouth is exquisitely tender, and, when nursing or attempting to eat, a burning sensation follows. As a result, the child is peevish and fretful. The tongue is furred, the breath is fetid, and a slight fever is occasionally noted; there may be some gastric or intestinal disturbance.

On inspecting the mouth, small vesicles are seen on the inner surface of the lips, and along the sides of the tongue, and near the frenum; they

may also be found on the cheeks; these rupturing, small, white patches, surrounded by a red base are observed, which may later ulcerate. There is a free secretion of saliva and mucus, which, in the infant, dribbles from the mouth, and in older patients necessitates frequent spitting. There may be enlargement of the submaxillary glands.

**Diagnosis.**—The small vesicles upon the sides of the tongue and mouth, followed by white or yellowish patches, make the diagnosis plain.

**Prognosis.**—The disease usually yields to treatment in a week or ten days, though some cases prove very intractable, with a tendency to recur at intervals.

**Treatment.**—Cleanliness is of the greatest importance, and the mouth should be rinsed with lukewarm water after each feeding. In bottle-fed babies, great care must be taken that the bottle and nipple are kept sweet and clean, the nurse being instructed to scald out the bottle after each nursing, and lay in plain cold water, or in soda or lime water.

For a mouth wash, potassium chlorate and hydrastis, or boracic acid, will prove among the best. Painting the patches with equal parts of thuja and water is also frequently beneficial. Internally, specific phytolacca is the remedy par excellence. If there is fever, add aconite to the above. Where the tissues are *bluish* and the breath bad, echinacea will prove more effective. Where the tongue is coated with a moist, yellow, pasty coating, potassium chlorate and hydrastis one dram, to water four ounces, a teaspoonful every hour, will give relief and the best results. Where there is hypersecretion of saliva, specific belladonna ten drops, to water four ounces, will be indicated. Dr. Webster likes the action of jaborandi for this same condition. In the adult, where the ulcers persist, apply bluestone direct to the ulcers.

## THRUSH.

**Synonyms.**—Parasitic Stomatitis; Stomatitis Mycosa.

**Definition.**—A specific fungous disease of the buccal mucous surfaces, characterized by whitish or yellowish deposits, in which are found the *saccharomyces albicans*.

**Etiology.**—Predisposing causes are such as furnish a soil suitable for the propagation of the thrush fungus; such as tuberculosis, congenital syphilis, or any disease whereby the blood is impoverished. In bottle-fed children, when cleanliness is not observed, and the bottle and tube contain sour milk; in adults, typhoid fever, diabetes, and carcinoma, are fruitful causes.

The specific cause is the fungus above mentioned (*saccharomyces albicans*), which thrives in the changed condition of the mouth secretions, fermentation having changed the normal alkaline secretion to acid.

**Symptoms.**—The child is fretful and peevish, the result of the burning pain, and frequently a diarrhea, with greenish stools, occurs. On inspecting the mouth, we find the mucous membrane dry and of a dusky red color, upon which are seen the thrush spots in the form of white patches, first upon the tongue, rapidly extending to the lips, cheeks, pharynx, and sometimes to the esophagus and stomach.

When the extension is so general, a troublesome diarrhea exists. The saliva, after a few days, becomes profuse, but is acid in character; in fact, we find an acid saliva in nearly all forms. of stomatitis.

**Diagnosis.**—The dryness of the mouth in the early stage, the white patches, which can be readily removed without bleeding, the absence of the yellow ulcers seen in aphthous stomatitis, makes the diagnosis comparatively easy. The presence of the fungus, revealed by the microscope, makes the diagnosis positive.

**Prognosis.**—This is favorable unless there is marked cachexia, in which case it may be quite stubborn.

**Treatment.**—Remembering that the fungi thrive in an acid medium, our mouth-washes will be selected to correct this condition ; hence the alkalies are used; bicarbonate of sodium, boracic acid, potassium chlorate, etc. After each feeding, the mouth is to be carefully washed, every particle of food being removed. Sweets of all kinds are to be avoided, as they favor fermentation. The general health is to be improved by adopting more favorable hygienic conditions. Plenty of fresh air and wholesome and easily digested food will be important

factors in the cure.

Phytolacca, echinacea, nux vomica, rhus tox., and others of like character, will be used. Inunction of quinine and lard will improve the condition of the skin, and act as a tonic. In all these cases we are not to overlook the great fact that the impoverished condition of the blood furnishes the soil for the development of the parasite, and remedies are to be used which will give us a better blood, and consequently a more healthy body. When we fail in this respect, the local trouble persists in spite of local treatment.

## ULCERATIVE STOMATITIS.

**Synonyms.**—Fetid Stomatitis; Putrid Sore Mouth.

**Definition.**—A stomatitis characterized by the formation of ulcers on the gums and cheeks, attended by an offensive breath.

**Etiology.**—This is a disease of childhood, though it is sometimes met with in the adult. The predisposing causes are similar to those of aphthous stomatitis and thrush; viz., poor hygienic conditions, bad air, light, and food; poor clothing, damp and filthy quarters, and all conditions that impoverish the blood. Neglect of the mouth, and bad teeth, also favor the disease. No doubt the infectious fevers favor the generation of the virus whatever that may be. It is most likely due to a specific germ; but, as yet, the specific cause has not been discovered.

**Symptoms.**— “On examining the mouth, we find the gums red, swollen, and spongy, and where the ulcer is situated, a grayish, pultaceous material, on removing which, the surface is raw and bleeding. It generally commences on the front part of the gums, but gradually passes between the teeth, affects the posterior surface; continuing, it destroys the gum both before and behind, and, passing to the lips and cheeks adjacent, forms irregular ulcerations, covered by the same material. If it continues long, the tongue is swollen, and is marked by the teeth; the saliva becomes thick and very offensive, often streaked with blood, the gums bleeding at the slightest touch. The stomach is usually deranged, the bowels irregular, the tongue covered with a dirty coat, and more or less febrile action.” (Scudder.)

**Diagnosis.**—The soft, spongy condition of the gums, the characteristic ulceration, the foul breath, the vitiated saliva, together with the cachectic appearance of the patient, render the diagnosis easy.

**Prognosis.**—The disease usually yields readily to treatment, and even in those cases due to impoverished blood a cure will result in a few weeks under specific medication.

**Treatment.**—After thoroughly cleansing the mouth with pyrozone, boracic acid solution, or listerine, and the removal of carious teeth, we put the patient on potassium chlorate and hydrastis, both for its local and systemic use. It will fit more cases than any other remedy. For the nasty, dirty, pasty coating upon the tongue, which tells of sepsis, use sodium sulphite. If the sub-maxillary glands are involved, phytolacca will prove our best remedy. When the tissues are dusky, baptisia or echinacea will prove the better agents.

The ulcers may be touched with thuja, or with nitric acid, applied on a pine pencil. The gastric and intestinal disturbance may call for nux vomica or small doses of Podophyllin. Drop doses of Howe's acid solution of iron is a good tonic, as well as quinia and hydrastis. To harden the spongy gums, an application of tincture of myrrh and glycerin, three times per day, is useful. The diet should be nutritious and given in fluid form.

## MERCURIAL STOMATITIS.

**Definition.**—An inflammation of the mouth and salivary glands, due to the specific action of mercury. It may become phagedenic, destroying muscle, cartilage, and bone.

**Etiology.**—The disease is caused, as the name indicates, by the influence of mercury upon the system. Some people are extremely susceptible to this drug, and the smallest dose will produce ptyalism; hence, an occasional case is seen, notwithstanding the heroic doses of fifty years ago have been discarded by the profession.

**Symptoms.**— “The mouth feels unusually hot, and is sometimes sensible of a coppery or metallic taste; the gums are swollen, red, and tender; ulcers make their appearance, and spread in all directions; the

saliva is thick and stringy, and has that peculiar, offensive odor characteristic of mercurial disease; the tongue is swollen and stiff, and there is some fever, with derangement of the secretions. The disease progressing, it destroys every part that it touches, until the lips, the cheeks, and even the bones, have been eaten away before death comes to the sufferer's relief." (Scudder.)

**Diagnosis.**—The history of the case, mercury having been taken, the metallic taste, and the character of the ulcers, make the diagnosis positive.

**Prognosis.**—The prognosis is usually favorable, though the teeth may be sacrificed, and in severe cases the periosteum is destroyed.

**Treatment.**—Chlorate of potassium is almost a specific for this form of stomatitis. It should be combined with hydrastis, and used both locally as a wash and also for its systemic effect. The ulcers may be touched with dilute sulphuric or nitric acid. Dr. Webster speaks very highly of jaborandi in small doses. It is doubtful if phytolacca is as beneficial in this variety as in the other forms. Alkaline washes and pyrozone should be freely used. The diet should be nutritious, in fluid form, and unirritating. It is hardly necessary to add, that the exciting drug should be at once withheld as soon as the first evidence of ptyalism is noticed.

## MEMBRANOUS STOMATITIS.

**Synonym.**—Croupous Stomatitis.

**Definition.**—An inflammation of the buccal mucous membrane, characterized by the formation of a false membrane.

**Etiology.**—There seems to be quite a difference of opinion as to the specific cause of this form of stomatitis. Some regard the Klebs-Loeffler bacillus as responsible for it, while others contend that gonorrhreal or syphilitic infection in the new-born is the primary lesion that gives rise to the disease.

**Symptoms.**—This form of stomatitis appears in the shape of small, irregular patches, of a grayish white color, the parts surrounding being red, painful, and hot. Of this Scudder says:

"The breath is fetid, and the submaxillary glands enlarge. As the disease proceeds, the patches of membranous exudation extend, become more or less detached, and are succeeded by others, and the intervening surfaces are red and swollen. The tongue is swollen and the mouth continually open, allowing the escape of altered saliva. The enlargement of the lymphatic glands increases, the face swells, the breath becomes more fetid, and the pulse more quick and rapid, and generally soft, open, or full and weak." "The disease sometimes extends back to the throat, and even involves the mucous membranes further, sometimes occasioning imminent danger. It may become chronic, and continue for weeks or months."

**Diagnosis.**—This is made by the membranous character of the patches.

**Treatment.**— "With small doses of aconite we associate phytolacca, rhus, or baptisia, as indicated. When the tissues are full, the first; if contracted and hot, with vivid redness, sometimes fissured and bloody, the rhus; and if there is dusky discoloration, the baptisia. The remedies are used in the ordinary small doses, and the phytolacca and baptisia may also be used as washes. When the tongue is broad, pallid, and dirty—a rare case—sodium sulphite is the remedy.

'As a local application, the hydrochloric acid with honey, one part to three, four, or six, will be found as good as anything; it should be applied with a small piece of sponge attached to a stick to the membranous exudations, being careful to reach them all. At the same time a saturated solution of potassium chlorate, with a small portion of glycerin, may be frequently used. An infusion of cinchona, acidulated with hydrochloric acid, has been recommended subsequently; but I would prefer the decoction of rumex, ainus, and quercus rubra."

## GANGRENOUS STOMATITIS.

**Synonyms.**—Cancrum Oris; Noma; Water Cancer.

**Definition.**—Gangrene of the cheek and gums, affecting delicate and sickly children, rarely the adult, and characterized by a rapid destruction of tissue. The disease is generally fatal.

**Etiology. — Predisposing Causes. — Age.** — The disease usually occurs between the ages of two and six years, and is more frequently found in girls than in boys.

*Climate.*—It prevails in low moist countries, especially in Holland.

*Infectious Fevers.*—While the disease may be primary, it frequently follows the infectious fevers, especially measles, scarlet fever, typhoid fever, typhus fever, and pneumonia. In fact, any disease that lowers the vitality, as well as poor hygienic conditions which impoverish the blood, predispose to noma.

**The Exciting Cause.**—Mercurialization has been thought, by many, to be responsible for this destructive disease, and from the similarity of symptoms of this and mercurial stomatitis, there are strong grounds for the belief. The microbial theory has its adherents, but as yet no specific germ has been discovered.

**Symptoms.**—The disease commences with an indurated swelling, usually near the angle of the mouth. On grasping the swollen mass between the finger and thumb, we get the sensation that the induration extends through the entire cheek. Externally the affected side is swollen, and presents a blanched, glassy appearance. Internally, there is a dusky redness, in the center of which the ulcer rapidly forms; phagedenic in character, it rapidly destroys tissue, and may perforate in three or four days, though rarely before seven or eight days. The entire cheek may be involved, the tissues melting away like a snowball in the sun. From the ulcer an ichorous fluid is discharged, and shreds of tissue slough off and are mixed with the changed and vitiated saliva. The odor is peculiarly fetid and that of gangrene. The submaxillary glands are always swollen; usually there is but little pain.

As the disease progresses, the temperature rises to 104° or 105° ; the pulse, though feeble, is rapid. In swallowing, more or less of the ichorous fluid and shreds of the gangrenous tissue enter the stomach, and a troublesome diarrhea often follows, or the patient, poisoned by the inhalations from his own necrotic cheek, finds septic lobular pneumonia complicating the already overburdened system; the prostration increases, the mind wanders, or the patient sinks into stupor, and succumbs to general sepsis. Death may occur in a few days, or be delayed three or four weeks. In exceptional cases, the patient recovers,

leaving great disfigurement from cicatrization of tissue; the disease is generally confined to one side.

**Diagnosis.**—When fully established, the diagnosis is not difficult. The hard, indurated nodule near the angle of the mouth, the phagedenic character of the ulcer, the gangrenous tissue and foul odor, and later the perforation, can hardly be mistaken for any other variety.

**Prognosis.**—This is a very grave disease, and the prognosis is decidedly unfavorable, principally due to the impoverished condition of the blood, and general sepsis.

**Treatment.**—The local treatment will consist of first cleansing the mouth thoroughly, trimming away the gangrenous sloughs and washing the ulcer with a five per cent solution of pyrozone, or a solution of potassium permanganate. The orifice should then be packed with cotton saturated in echinacea.

Internally, give echinacea three drams, water four ounces; teaspoonful one hour, alternating with a saturated solution of hydrastin or potassium chlorate. Where the tongue is covered with a nasty, dirty, pasty coating, sodium sulphite will be used. The mineral acids will replace the above remedies if the tongue be dry and brown and sordes appear on the teeth. The treatment will be antiseptic throughout.

## GLOSSITIS.

**Definition.**—An inflammation of the parenchyma of the tongue, usually terminating in resolution, though suppuration occasionally results.

**Etiology.**—This may occur as the sequel of pneumonia, or as a complication, though the exciting cause is most frequently the result of bites or stings from insects, or scalds from hot fluids, or from corrosives. Anders suggests that injuries to the tongue provide an entrance for various bacilli, which may be an exciting cause.

**Symptoms.**—These depend somewhat upon the form, whether a primary or a secondary lesion. In the one case, swelling of the tongue begins rapidly, soon filling the mouth, and even protruding from the

lips.

The tongue may be coated, though usually it is dry, red, and glossy. There is tenderness and pain and great difficulty in swallowing. The dyspnea is distressing and sometimes endangers life. The patient is unable to talk and distress is evident in every feature. There is an increased flow of saliva, with swelling of the submaxillary glands. The pulse is rapid, and the temperature ranges from 102° to 104°. It usually runs its course in from five to seven days. Where the disease is secondary the symptoms are developed more slowly, though similar to the ones just described.

**Diagnosis.**—The swollen, stiff, and immobile tongue renders the diagnosis easy.

**Prognosis.**—It is favorable in the acute form, but must be guarded, if a complication of a grave disease.

**Treatment.**—Where the tongue is badly swollen and tense, I have found soft linen cloths dipped in a solution of glycerin and potassium chlorate and hydrastis, and applied to the tongue, to give the greatest relief. Alkaline washes may also be used. Internally, aconite and phytolacca are useful; bits of cracked ice may be held in the mouth, and is grateful to the patient.

I would discourage scarifying the tongue, as the relief is but momentary and the pain quite severe. Inhalations of steam from hops and tansy or eucalpytus will also give relief. If the dysphagia is great, feeding by rectum may be necessary. Where the disease is secondary, in addition to the means above mentioned, appropriate remedies should be used for the primary lesion.

## II. DISEASES OF THE SALIVARY GLANDS.

### HYPERSECRETION.

**Synonym.**—Ptyalism.

**Definition.**—An excessive secretion of saliva.

**Etiology.**—The disease may occur in a number of affections; thus it is occasionally seen in nervous, emotional children, and also in hysteria, here being due to a neurosis. It is sometimes present in the acute infectious fevers, notably small-pox. It is quite common in several forms of stomatitis, as has already been noted. Pregnancy is occasionally accompanied by an annoying flow of saliva. Certain vegetable agents cause an excessive secretion, jaborandi, muscarin, and tobacco being the most common examples, though their action is soon over.

The most frequent cause, and by far the most serious, is from the ingestion of mercury, it sometimes lasting for weeks after a patient has been thoroughly mercurialized.

**Symptoms.**—The mouth is constantly bathed with saliva, which necessitates frequent spitting on the part of the patient, or, in children, an almost constant dribbling. Where it is very excessive, talking is carried on with difficulty. The almost constant wetting of the lips may be attended by chapping and cracking at the angles of the mouth.

**Diagnosis.**—The continued dribble, or frequent emptying of the mouth of saliva, is confirmatory of the lesion.

**Prognosis.**—The prognosis is favorable, though in pregnancy it may continue to full term, and, in the worst cases of mercurial-ization, may persist for weeks.

**Treatment.**—This will depend somewhat upon the cause. In the case of stomatitis, the treatment recommended for the local disease is sufficient for a cure. If it be due to pregnancy, iris versicolor will sometimes afford relief. Where it results from mercury, potassium chlorate, both as a wash and internally, will give good results. Belladonna, especially where there is general capillary congestion, is very efficient. Atropia in 1/100 grain doses once or twice a day is useful in some very persistent cases. Small doses of jaborandi will be found beneficial.

## XEROSTOMIA.

**Synonym.**—Dry Mouth.

**Definition.**—A defect or arrest of the salivary and buccal secretions.

**Etiology.**—In some cases it is undoubtedly a neurosis, the large majority of cases occurring in females. In many cases the cause is unknown. Diabetes is frequently attended by great thirst and dryness of the mouth, and should be considered as a causal factor.

**Symptoms.**—The mouth is dry, red, or parched, resulting in difficulty in mastication, deglutition, and talking. Digestion is more or less impaired, and gastric symptoms may be present.

**Diagnosis.**—The patient calls our attention to the unpleasant condition of dryness, and inspection reveals the condition.

**Prognosis.**—This depends upon our ability to remove the cause.

**Treatment.**—Jaborandi given in large doses has been found beneficial. Galvanism promises more, perhaps, than drugs. In one very persistent case, that of an old gentleman, I recommended him to chew Yucatan gum, and this was followed by greater relief than that afforded by medicine.

## **INFLAMMATION OF THE SALIVARY GLANDS.**

### **SPECIFIC PAROTITIS.—MUMPS.—SYMPTOMATIC PAROTITIS.**

**Synonym.**—Parotid Bubo.

**Definition.**—As the name suggests, this is a secondary inflammation of the parotid gland, with greater tendency to suppuration than in specific parotitis or mumps.

**Etiology.**—This being symptomatic, there are a variety of causal factors that figure in the production of the disease. Thus it may come up during the infectious fevers, especially in typhoid and dysentery. In these cases the septic condition of the blood may be, and usually is, the cause; or the inflammation may extend along the salivary duct till it reaches the gland. In peripheral neuritis following facial paralysis, symptomatic parotitis may occur.

Paget has called attention to injuries or disease of the abdominal and pelvic viscera; such as an injury to the abdominal wall, or to the peritoneum, or the urinary tract. A blow on the testes has also been followed by parotitis, as has the introduction of a pessary, some menstrual derangements, and pregnancy.

**Symptoms.**—During the course of the primary disease, or following an injury, the gland becomes swollen, tender, and more or less dusky and livid. There is a marked tendency to suppuration.

**Diagnosis.**—The swollen and enlarged gland makes the diagnosis easy.

**Prognosis.**—A certain per cent will terminate in suppuration.

**Treatment.**—The cause being septic conditions of the blood, the treatment will very naturally be the administration of antiseptics; hence, echinacea, in five to- ten drop doses, will fit many cases. Combine with this agent phytolacca. In place of these, sodium sulphite, if the tongue be covered with a nasty, dirty, pasty coating. If dry and brown, muriatic acid replaces the soda. If we see that suppuration can not be prevented, moist, hot applications should be made, hastening the process, when it should be freely opened and treated aseptically as any other abscess.

### III. DISEASES OF THE PHARYNX.

#### ANGINA SIMPLEX.

**Synonyms.**—Sore Throat; Acute Pharyngitis.

**Definition.**—An acute inflammation of the mucous membrane of the pharynx, and sometimes of the entire pharyngeal structure.

**Etiology.**—While the exciting cause is most frequently sudden atmospheric changes inducing colds, it may follow certain infectious fevers, notably scarlet fever and la grippe. Not infrequently there seems to be a rheumatic or gouty taint, which renders the patient very susceptible. It occasionally appears in epidemic form, when it is undoubtedly due to infection. Acrid secretions from nasal catarrh may prove sufficient in some cases to give rise to pharyngitis.

**Symptoms.**—The symptoms of sore throat are characteristic, the patient complaining of pain and fullness in the throat, especially when swallowing. The surfaces are dry and swollen, and the patient swallows frequently to give relief. On inspection, we see a vivid redness of the mucous surfaces, and where the submucous tissues are involved, the throat presents a dusky hue. The inflammation, quite often, invades the posterior pillars of the fauces, the tonsils, and, sometimes, even the larynx.

The patient hawks or coughs frequently to relieve the sense of constriction in the early stage, and to remove the secretion, which constantly bathes the surfaces, in the latter stages. The lymph glands are swollen, and frequently the neck becomes quite stiff. With the ushering in of the disease, there may be chilly sensations, followed by slight fever, dry skin, constipation, and general arrest of the secretions. If the larynx be involved, there may be a sense of constriction of the throat, hoarse voice, and frequent cough.

**Diagnosis.**—Inspection reveals the character of the disease, and it can scarcely be mistaken for any other trouble.

**Prognosis.**—The disease readily yields to specific treatment, though in delicate children it is apt to leave the throat susceptible to a repetition on slight exposure.

**Treatment.**—Aconite has a special affinity for lesions of the throat, and we find it one of our best agents, and useful in nearly every case. To this may be added phytolacca, where there is swelling of the lymphatics; belladonna, where there is a vivid redness; guaiac, where the tonsil is involved. If the tissues are dusky, baptisia will answer a better purpose.

Where there is sepsis and the tissues livid, echinacea will give better results. If the tongue is coated with a yellowish moist coating, and there is offensive breath, potassium chlorate and hydrastis are the remedies, while sodium sulphite replaces these agents when the tongue is broad and heavily coated with a dirty, moist, pasty coating. When the tissues are dark red, and the tongue is red and dry, muriate tincture of iron is a specific.

Where the larynx is involved and the voice is hoarse, drop-doses of stillingia liniment internally, and applied over the larynx, will give prompt relief, or hamamelis and collinsonia are good remedies for laryngeal complications.

The local treatment will vary in different conditions. If the inflammation is active, wring a small towel out of cold water, and apply snugly around the throat, being careful to have a dry binder over this. As a gargle I know nothing superior to potassium chlorate and hydrastis; use every one or two hours. If the deeper tissues are involved and the throat presents a relaxed appearance, gargle with hamamelis or perchlorid of iron. Of the latter use one dram to glycerin and water of each two ounces. Where the patient can not gargle, potassium chlorate may be triturated with gum arabic and sugar, and about as much as will lie upon a dime placed upon the tongue and slowly allowed to dissolve, repeating every two or three hours.

Upon recovery, the patient should be directed to llush the throat and chest every morning with cold water, to be followed by brisk rubbing till the parts are thoroughly dry. If this be persisted in for several months, the patient outgrows the susceptible condition.

## **PHLEGMONOUS PHARYNGITIS.**

**Synonym.**—Cynanche Maligna.

**Definition.**—A low grade of inflammation, involving the deeper tissues of the throat, attended by sepsis and ulceration.

**Etiology.**—The cause is not known, though all the symptoms point to poisoning of the blood, and no doubt it bears a close relation to the infectious material of kindred diseases. Depravation of the blood from any source, as well as poverty, with its attendant surroundings, predisposes to this lesion.

**Symptoms.**—Dr. Scudder gives such a plain, typical, and vivid picture of the symptoms that I will reproduce it here:

“For two or three days, sometimes for a week, it is noticed that the patient looks pallid, his skin waxy or pasty, and that there is a want of

expression in the countenance. The breath is also bad, the tongue broad and pale and somewhat loaded.

"In some cases the disease is fully announced by a chill of longer or shorter duration. But in others there is such a gradual increase in the symptoms that it is difficult to separate the forming stage from the fully developed disease.

"When the physician is called, he finds evidences of a general and a severe local disease. The pulse is soft, easily compressed, and increased in frequency from ten to thirty beats per minute. The extremities are kept warm with difficulty, the skin is pallid or sallow, and presents a peculiar waxy appearance, looking many times as if it were edematous, and would pit on pressure. The face is pallid and expressionless, with a dark line under the eyes, which also are dull, with dilated pupils. The bowels are irregular, the feces clay-colored and papescent; the urine free, pale, and of low specific gravity. There is no appetite ; indeed, from the condition of the mouth and throat, there is disgust for food.

"On examining the mouth and throat, we find the mucous membranes pallid, the tongue broad, pitting where it comes in contact with the teeth, and covered with a pasty, white coat. The mucous membrane of the throat is swollen and discolored; in some cases it is livid, in others of a dusky red, and in some few it presents a peculiar blanched appearance. The tissue seems relaxed and flaccid, and the circulation sluggish.

"In a couple of days small points of ulceration will be seen, sometimes superficial, at others with a tendency to extend in depth. These ulcers increase in size more or less rapidly, according to the severity of the disease, and the throat will present a markedly ragged and foul appearance. In very severe cases the ulcers pass through the mucous membrane and invade the cellular tissue, so that in fatal cases the structures are destroyed to a greater extent than we would deem compatible with life, for some hours before death ensues.

"A distinctive symptom of malignant sore throat is the change in the tone of the voice; it is not so much hoarse as hollow and sepulchral; as a musician would say, 'It has lost its timbre.'

**Diagnosis.**— "This disease is readily recognized by the fetid breath, the

abundant secretion from the throat and mouth, and by the peculiar relaxed condition of the structures. Add to this the general cachexia, which is peculiar to this and, to some extent, to cancrum oris, and we have a grouping of symptoms that can not be mistaken.

**Prognosis.**— “Though the disease is a very unpleasant one, and attended with much depravation of the fluids and solids, the prognosis is not unfavorable. A large majority of cases will recover, probably as much as ninety or ninety-five per cent.

**Treatment.**— “The treatment of cynanche maligna will be both constitutional and local. We want to antagonize the septic influence, improve the circulation of the blood, increase the tone of the system, and place the stomach in condition to receive and appropriate food, and re-establish secretion.

“Aconite and belladonna may be given in small doses, to improve the circulation. Under their influence we find the pulse becoming stronger and more full, the capillary circulation better, and the temperature of the body more uniform.

“Of the antiseptics I prefer sodium sulphite in the majority of cases, giving it, in the usual doses, every three hours. In some cases potassium chlorate may be used instead, or alternated with the sulphite; triturated with gum arabic and sugar, as named for diphtheria, will probably be the best form for administration. The baptisia in infusion is an excellent antiseptic, and may be associated with either of them.”

Echinacea, in full doses, will be among our best agents.

“In addition to this, I prescribe quinine in stimulant doses, sometimes alone, at others in combination with hydrastin. The dose will be about two grains, three or four times a day. Tincture of muriate of iron can also be used with advantage in some cases. It may be especially named as an important remedy in those cases which manifest an erysipelatous tendency.

“The local means will vary in different cases. In the milder ones a decoction of baptisia, used as a gargle, will be sufficient. In others we may alternate this with a gargle of potassium chlorate, and in others the sodium sulphite will answer a good purpose. In those, cases where

the tissues are relaxed and the ulceration progresses rapidly, potassium permanganate will be the most powerful, as well as the most certain local remedy we can use. We would make the solution of the strength of one dram of the salt to one pint of water. When it is used with the pencil or probang, it may be applied much stronger than this.

"We find some patients who can not use a gargle to advantage, and in some of the severe cases the throat is so paralyzed as to prevent its use; in these cases we will have to employ other plans for local applications. I do not like the use of the probang to make local applications to the throat. Instead of this I use inhalation, preferring the spray apparatus, either air or steam, to any other apparatus. But it does not require an instrument; for, as we have already shown, an inhalation can be given with nothing but a vessel to hold the fluid and a heated iron to raise a vapor. The vapor of vinegar and water answers an excellent purpose, as does an infusion of tansy, or of baptisia. In using the spray apparatus we may use the same remedies named for gargles. A solution of carbolic acid, grains five to grains ten to water four ounces, has been highly recommended. I have also used the sulphurous acid alone, or diluted with water, with excellent results."

A five per cent solution of pyrozone is especially useful in those cases where the ulcers are foul.

"The external application in this, as in many other diseases of the throat, is a flannel wrung out of cold vinegar, with a dry flannel over it. We call it the vinegar pack, but a cold-water pack to the throat will answer the purpose."

## CHRONIC PHARYNGITIS.

**Synonyms.**—Chronic Follicular Pharyngitis; Chronic Granular Pharyngitis; Pharyngeal Catarrh.

**Definition.**—A chronic inflammation of the mucous surfaces of the pharynx and adjacent tissues.

**Etiology.**—It may be the result of repeated attacks of the acute form, or it may come on gradually, the result of continued irritation from smoking or drinking. Very hot drinks or highly spiced food may also

render one liable to this affection. Frequent hawking to clear the posterior nares is a very frequent source of irritation. Another common cause is the frequent and injudicious use of the voice as noted by street fakirs, campaign orators, and those who strain the voice, especially in the open air. Acrid eructation from a disordered stomach may also figure in producing the disease.

**Pathology.**—The mucous membrane of the pharynx and fauces is relaxed and somewhat thickened and of a vivid red or dusky color. The venules are dilated and tortuous and the mucous surface is studded with small, round, red bodies, the enlarged mucous follicles. The hypertrophied membrane, when relaxed and flabby, appears as if laid in ridges. In some cases there is atrophy of the mucous follicles, and the surface is dry, red, and glistening,—pharyngitis sicca.

**Symptoms.**—The patient experiences a sense of stuffing up in the upper part of the throat, and, to get relief, there is frequent effort to remove it by hawking, or, where the surface is dry, there is almost constant swallowing. A short, dry, hacking cough reveals laryngeal complications, and the voice is more or less husky. Inspection reveals a varied condition; in the earlier stages the mucous membrane is swollen, red, and bathed in mucus; later we find it dusky in color, and studded with the enlarged mucous follicles. Again, the surface is red, glistening, and dry, or red and covered with tenacious mucus, which is removed with difficulty.

The uvula may be full and relaxed. There is usually no pain, though an uncomfortable sensation exists most of the time, owing to the dryness of the throat in the one case, and the viscid secretion in the other.

**Diagnosis.**—Inspection and history of case reveal the disease.



FIGURE 25. CHRONIC FOLUCULAR PHARYNGITIS.—(Foltz.)

**Prognosis.**—This is favorable, save where there are marked structural changes.

**Treatment.**—In beginning the treatment, the patient must clearly understand that ill sources of irritation are to be avoided if a cure is effected. Smoking, the use of alcoholic drinks, highly seasoned food, the prolonged use of the voice, especially in the open air, are to be discontinued.

The local treatment will consist of galvanism, gargles, and the use of the spray; the remedies, depending upon the condition of the tissues. Where the tissues are relaxed and a stimulant is required, capsicum, 2 drachms; tannic acid. 1/2 drachm: water, 16 ounces, will act kindly. If a sedative is needed the prescription will be:

Hydrastis	1/2 ounce.
Potassium Chlorate	2 drachms.
Water	8 ounces. M.

Hamamelis often gives good results. When the throat is bathed with mucus or muco-pus, galvanism is the best local treatment. Where there are enlarged follicles, the galvano-cautery is the most successful method of effecting a cure. Boracic acid is a favorite remedy with many.

Internally, collinsonia has afforded relief in many cases, especially where the larynx is involved. Sanguinaria, third trituration, every three or four hours, will relieve the tickling sensation so often experienced; belladonna where the throat is bright red, swollen, and dry; or we may use jaborandi with these same conditions.

Guaiac will also be frequently used for similar conditions. Attention must be paid to the general health; for local disorders fail to yield to local treatment where there are systemic wrongs. An impoverished blood must be corrected, gastric derangements overcome, and the secretions established.

## ULCERATION OF THE PHARYNX.

**Synonym.**—Ulcerated Sore Throat.

**Definition.**—An indolent ulceration of the mucous membrane and deeper tissues of the pharynx.

**Etiology.**—This form of ulcerated sore throat occurs most frequently in persons of depraved constitutions, who are exposed to septic influences. It is secondary in syphilis and tuberculosis, both of which have been described under their respective diseases.

Follicular ulceration of the pharynx, as the name suggests, is a superficial ulceration of the follicles on the posterior walls of the pharynx, and appears as small, raised, yellowish sores.

**Symptoms.**—There is usually slight fever, loss of appetite, a coated tongue, bad breath, and painful deglutition. On inspection, we see small ulcerated patches on an inflamed base; quite often the neighboring tissue, the tonsils, are involved. The secretions are more or less arrested and the patient may feel quite sick, with great prostration, more so than the throat symptoms would warrant. This is nearly always associated with catarrhal pharyngitis.

**Diagnosis.**—There is scarcely any difficulty in recognising the disease. The small, elevated, superficial ulcer tells the story.

**Prognosis.**—This is always favorable.

**Treatment.**—The treatment is specific, and the cure completed in a few days:

Aconite	5 drops.
Phytolacca	15 drops.
Water	4 ounces. M.

Sig. Teaspoonful every hour. with a gargle of potassium chlorate and hydrastin.

Where there is smarting and burning in the throat.

Rhus Tox	10 drops.
Water	4 ounces. M.

Sig. Teaspoonful every hour.

A spray of a five per cent solution of pyrozone is very good in many of these cases.

## IV. DISEASES OF THE TONSILS.

### ACUTE CATARRHAL TONSILLITIS.

**Definition.**—An acute inflammation of the mucous membrane covering the tonsils.

**Etiology.**—This form of tonsillitis is the result of exposure to cold, and occurs most frequently with the breaking up of winter, when sudden atmospheric changes are common. Bad hygienic conditions also favor the disease.

**Symptoms.**—The disease is ushered in by slight constitutional symptoms, such as chilly sensations followed by slight fever, with general arrest of the secretions. The patient complains of sore throat, and inspection reveals an active hyperemia of the mucous membrane, with slight swelling of the gland. At first the surface is dry and painful, the patient swallowing frequently, to moisten the surface. In a short time secretion is established, and the surface is bathed with a creamy muco-pus. Where the inflammation is active there is slight swelling of the lymphatics.

**Diagnosis.**—The location of the pain, the bright red, inflamed mucous membrane covering the tonsils, which are slightly enlarged, is characteristic.

**Prognosis.**—The prognosis is always favorable, the disease yielding in four or five days.

**Treatment.**—Aconite and belladonna usually are the only remedies needed; five drops of the former and ten of the latter, added to water four ounces, a teaspoonful every hour, soon terminates the disease; or

aconite and phytolacca, when there is enlargement of the lymphatics. Dr. Watkins regards guaiac as a specific in these cases, associated with aconite. As a local treatment, have the patient use a gargle of potassium chlorate and hydrastin. A cloth wrung out of cold water and snugly applied around the throat, with a dry binder over all, is very effective when the inflammation is active.

## FOLLICULAR TONSILLITIS.

**Synonym.**—Lacunar Tonsillitis.

**Definition.**—An inflammation of the mucous membrane covering the tonsils and lining the crypts or follicles of the gland.

**Etiology.**—This occurs most frequently between the ages of ten and twenty-five, while it is rare in infants and after middle life. Exposure to wet and cold, especially after overheating or undue use of the voice, is a common exciting cause. It occurs most frequently in the spring. Bad hygienic surroundings, especially where the sewerage is defective, allowing the escape of sewer-gas, is also thought to be a fruitful cause. An effort has been made, with some success, to show that there is some relation existing between rheumatism and this disease.

Measles, scarlet fever, and diphtheria, of the infectious fevers, play some part as a causal factor in this lesion.

**Pathology.**—The lacunae are filled with a cheesy substance, consisting of epithelial cells and various micrococci, and, protruding from the crypts, give the tonsil a spotted appearance; the mucous membrane between the crypts is bright red, and bathed with a creamy pus, sometimes resembling a membrane, and may be mistaken for diphtheria, though the ease with which it may be wiped off should allay all doubts as to its character. Sometimes calcareous degeneration occurs, and limy or chalky deposits fill the lacunae.

**Symptoms.**—This is more severe than the catarrhal form, and is usually ushered in with a chill, followed by rather a high grade of fever considering the local character of the disease. During the initiatory stage the patient complains of aching all over the body, and one who is subject to the disease will diagnose his own case before there is much

local trouble.

The throat soon becomes sore and stiff, the pain extending to the ear; the tonsil or tonsils are red, angry-looking, with yellowish spots, the cheesy exudate showing from the crypt. Swallowing is difficult, and respiration is more or less impaired; the lymphatics are generally involved. The tongue is coated with a dirty fur, the breath is offensive, and the secretions markedly arrested, the skin being dry, urine scanty, and bowels constipated; the temperature frequently reaches 103° or 104°. The disease reaches its height by the fourth or fifth day, then gradually declines, the patient being convalescent by the end of the second week.

**Diagnosis.**—Remembering the chief characteristics of this form of the disease, the diagnosis is readily made; the active fever, the characteristic aching of the whole body, the cheesy exudate filling the lacunae, and the creamy exudate that can be readily wiped off without causing bleeding, enables us to recognize this from diphtheria, the only disease that it resembles.



FIGURE; 26. FOLLICULAR TONSILITIS.—(Foltz.)

The clinical picture is a surer guide than the Klebs-Loemer bacillus, as it is well known that this germ may reside in other than diphtheritic throats.

**Prognosis.**—The prognosis is favorable, the disease rapidly yielding to specific treatment in from three to five days.

**Treatment.**—But few remedies are needed; aconite, phytolacca, belladonna, macrotys, gelsemium, and guaiac will meet all the

conditions present.

Where the surface presents an angry appearance, and is red, dry, and hot,—

Aconite	5 drops.
Belladonna	8-10 drops.
Water	4 ounces. M.

Sig. Teaspoonful every hour will give relief.

Where the throat is painful and the lymphatics are enlarged, nothing is better than aconite and phytolacca, a half a dram of the latter replacing the belladonna in the former prescription. My colleague. Dr. Watkins, could hardly treat this disease without using tincture guaiac, and, having used it recently, I am ready to give it a hearty sanction. For the general aching and soreness and stiffness of the neck, gelsemium and macrotys a half dram, to four ounces of water, will give speedy relief. The use of potassium chlorate as a gargle, and the cold wet pack, will be the only local treatment necessary.

### **ACUTE SUPPURATIVE TONSILLITIS.**

**Synonyms.**—Quinsy; Angina Tonsillaris.

**Definition.**—An inflammation of the parenchyma of the tonsil, with tendency to abscess formation.

**Etiology.**—The predisposing causes are such as have been mentioned for follicular tonsillitis. Tuberculosis may be added as influencing unfavorably the tonsillar structures. We might say truly that any disease which lowers vitality and impoverishes the blood renders the glands more susceptible to disease. Bad hygienic surroundings and exposure to cold are the exciting causes. A previous attack and hypertrophy of the glands also render them more susceptible. Age also influences the disease, it being rarely seen in persons under fifteen years of age, or in those past middle life.

**Pathology.**—The tonsils become red, swollen, and sometimes enormously distended, occluding the throat when both tonsils are

affected at the same time. The inflammation often extends to the pharyngeal tissues, and the uvula becomes relaxed and edematous, resembling a small bladder. The connective tissue surrounding the gland becomes greatly enlarged, followed by suppuration.

**Symptoms.**—The initial symptoms are so characteristic that the patient, if he has had several previous attacks, is able to diagnose the case even before the local symptoms are very marked. The chilly sensations accompanied by headache, backache, general aching of the whole body, flushed, hot face, and dryness of throat, tell him of an attack of tonsillitis as plainly as though he had consulted a physician.

The throat becomes sore and stiff, and there is a sensation as though some foreign body were in the throat, which causes the patient frequent swallowing in hopes of relief. As the inflammation progresses, the gland becomes very much swollen, and if both sides are affected at the same time, the throat is almost occluded, rendering respiration difficult, deglutition very painful and almost impossible.

The parts are bathed with aropy mucus, which gives rise to a guttural cough in its removal. The tongue is coated with a dirty, offensive fur, the skin is dry and constricted, the urine scanty and highly colored, and the bowels constipated. The temperature is quite high, 103°, 104°, or 105°. Within forty-eight or seventy-two hours, the glands are enormously enlarged, the adjoining tissues share in the inflammation, and inspection reveals tonsils kissing across the chasm, and the edematous uvula, like a small bladder, resting upon the surface.

The submaxillary glands become enlarged, and the opening of the mouth is attended with great pain, and is sometimes impossible owing to locking of the jaws. A throbbing pain, together with chilly sensations, announces the suppurative stage. Dyspnea is now a marked feature; the patient is unable to lie down, and his distress is painful to look upon. At this juncture, when he fears he will choke to death, the tonsils rupture spontaneously, followed by immediate relief.

Quite often the patient, weary and worn with suffering, drops asleep, to be aroused by a strangling sensation, to find his mouth full of pus and blood. With the rupture of the abscess, the gland soon returns to its normal condition, and the disease terminates in a week or ten days. The suppurative process may extend to the cellular tissues between the

tonsils and the pterygoid muscles, giving rise to a peritonsillar abscess, which may point above the clavicle.

**Diagnosis.**—The disease is readily recognized upon inspection; the swollen gland, the guttural voice, the immobile jaws, can not be mistaken for any other affection.

**Prognosis.**—This is almost always favorable, the principal danger being from entrance of pus into the larynx during a spontaneous rupture, while the patient is asleep.

**Treatment.**—If seen early, under specific medication, nearly every case can be terminated by resolution.

Aconite	5 drops.
Belladonna	10 drops.
Water	4 ounces. M.

Sig. Teaspoonful every hour or half-hour, will terminate a majority of cases in from forty-eight to seventy-two hours.

Guaiac	1/2 to 1 drachms.
Water	4 ounces. M.

Sig. Teaspoonful every hour. This is also quite a successful treatment.

Where there is swelling of the lymphatics, and the throat presents a spotted appearance, follicular complication, phytolacca will replace the belladonna. Locally, we may spray the throat with aconite one dram, to water four ounces, requesting the patient to empty the mouth and throat of the aconite. This, of course, is to be used only with adult patients. Painting the tonsils with veratrum has also been highly recommended. A gargle of potassium chlorate and hydrastin will be found useful.

**Externally** the cold pack and dry binder must be used where the fever is active. After escape of pus, the throat may be cleansed with listerine, pyrozone, or the above-mentioned gargle.

## **CHRONIC TONSILLITIS.**

**Synonyms.**—Hypertrophy of the Tonsils; Mouth-Breathing.

**Definition.**—An enlargement of the glands due to repeated inflammations of the tonsils, and occurring usually in early life.

**Etiology.**—While chronic inflammation of the tonsils may come on insidiously, it more often is the result of frequent attacks of follicular tonsillitis.

Among predisposing causes we may mention heredity, there being a tendency for the children of parents with enlarged glands to the same disease.

**Age.**—The disease being most frequently found in children between the ages of five and ten years.

*The Infectious Diseases*, such as tuberculosis, syphilis, and especially those in which the throat is apt to suffer; such as diphtheria, scarlet fever, la grippe, and sometimes measles.

The presence of adenoids frequently precedes tonsillitis, and may be given as a predisposing cause.

**Pathology.**—All of the tissues of the tonsils are involved, but in varying degree. In some the lymphoid changes predominate, while in others the stroma seems more involved, and a firm, fibrous tissue is developed. In the former the gland is larger, softer, and the follicles increase in depth, while their mouths dilate, their openings revealing white or yellowish-white plugs of cheesy particles, the debris of broken-down epithelial cells or calcareous or chalky deposits; at times the contents consist of food. Where the fibrous change predominates, the tonsil becomes firm, hard, blanched, and somewhat atrophied.

**Symptoms.**—At first the symptoms are not pronounced, and a child may have enlarged tonsils for some time without the parents knowing of the condition; the frequent sore throat following a cold finally leads to an examination of the throat, when the hypertrophy is discovered. Usually, however, the first symptom that calls attention to the throat is the difficult breathing, especially at night, when it is observed that the

child breathes with the mouth open—mouth-breathing. The child snores, chokes, and starts from sleep in a fit of dyspnea quite alarming to the parents, though it is never serious.

Inspection reveals two dusky or blanched, enlarged tonsils, covered with a profuse secretion of mucus, which necessitates a frequent hawking to clear the throat. Often white or yellowish-white cheesy deposits are seen filling the crypts. These are occasionally hawked up in the form of small, fetid, cheesy lumps, or sometimes a calcareous plug is spit up. Such material as epithelial debris, micro-organisms, and soft particles of food, give rise to a peculiarly offensive breath.

The roof of the mouth, the hard palate, is highly arched. The pressure of the enlarged tonsil on the Eustachian tube, or an extension of the inflammation along the tube, together with the pressure of the mucus from the pharynx, impedes the hearing, and sometimes renders the child quite deaf. The child contracts cold readily, when the tonsils become angry-looking, and an acute attack follows.

From the mouth-breathing the child takes on a dull, stupid, and besotted expression; the lips are thick and the eyes dull. The child is listless, apathetic, and responds slowly in speech and thought. The obstructed breathing may cause deformity of the chest, known as chicken or pigeon breast, where the sternum is prominent, with a more marked separation of the ribs anteriorly and converging posteriorly. Where the breathing is labored and asthmatic, the chest becomes barrel-shaped.

Chronic tonsillitis renders all sore throats more serious, such as scarlatina, diphtheria, pharyngitis, etc.

The general health suffers more or less. Indigestion from excess of mucus is often found, while anemia is not uncommon. Headaches are frequent, while inability to concentrate the mind renders the child backward in mental development.

**Diagnosis.**—Inspection reveals the character of the disease, and it can hardly be mistaken for any other trouble, unless it be that of malignant growths; and even here the mistake should not occur often. In malignant growths, it is usually confined to one side, is attended by severe pain, and presents a more angry appearance.

**Prognosis.**—This depends upon the character of the enlargement and the length of time involved. If the lymphoid changes predominate, the hope of recovery is far better than when the fibrous tissue prevails. These tissue changes render respiratory diseases, as well as throat troubles, more severe; hence they influence our prognosis. So far as life is concerned, the prognosis is always favorable.

**Treatment.**—Upon the character of tissue change largely depends the treatment. If the lymphoid predominates, and the tonsil is soft, we may expect good results from injections of thuja, or from the old application of perchlorid of iron and glycerin, equal parts. With a large camel's-hair brush, paint the tonsils twice per day. As the tonsil becomes accustomed to the iron, increase the strength of it till it is used full strength. The galvano-cautery will, however, give better results than local application.

If the bulging tumor is pale, hard, and fibrous, the most satisfactory treatment is amputation of the glands. When the general health suffers, attention must be directed to correcting the various wrongs that may be present. Good hygienic conditions are necessary, and the flushing of the neck each morning in cold water will overcome a tendency to contract colds.

## V. DISEASES OF THE ESOPHAGUS.

### ESOPHAGITIS.

**Definition.**—An acute inflammation of the mucous membrane of the esophagus, frequently involving the submucous tissues.

**Etiology.**—Inflammation of the esophagus is quite rare, and may arise from swallowing very hot drinks or hot food, or from a hard substance, as a spiculum of bone. A frequent cause is strong alkalies or acids, taken either by mistake or with suicidal intent. Carbolic acid and concentrated lye are most frequently taken. It may also be an extension of an acute pharyngitis or acute gastritis. It may be due to the infectious fevers, such as typhoid, typhus, pneumonia, or diphtheria, the latter showing its character by a membranous exudate. In confluent small-pox, ulceration of the esophagus, with its attendant inflammation, may result. Malignant growths are not uncommon.

**Pathology.**—The pathological changes are similar to those of inflammations of other tubes, though there may not be such a pronounced redness of the mucous membrane. The epithelium is usually thickened, and, when denuded, leaves a granular appearance. The mucous follicles become swollen, frequently followed by small follicular ulcers. In some cases there is a croupous exudate in the upper portion of the tube.

In some of the severe confluent cases of small-pox, pustules will be found in the esophagus, though this is exceedingly rare. When the submucous tissues are involved, suppuration may occur, the pus being discharged within the tissue. In the more chronic forms there is thickening of the mucous tissues in some parts, with atrophy of others, which gives a sacculated appearance to the tube. If the inflammation has been caused by a corrosive poison, stricture is very apt to follow.

**Symptoms.**—A dull, uneasy feeling, or sometimes a burning, smarting sensation, is experienced in the esophagus posterior to the sternum. Swallowing is difficult, and aggravates the pain. The presence of food, even though bland, often produces vomiting of blood, mucus, or pus. Where ulceration occurs, stricture is apt to take place, necessitating the use of fluid nourishment altogether. Where there is a croupous exudate, we have the history of diphtheria with its attendant symptoms. In the latter case, there is not only dysphagia, but difficult respiration as well.

**Diagnosis.**—The location of the pain, the difficulty of swallowing, attended by a burning sensation, are characteristic of this disease, and if an esophageal sound is used, tenderness and pain are elicited, and the sound is streaked with a bloody mucus. This latter condition is found in carcinoma, though in the latter case there would be greater systemic disturbance, and the peculiar cancerous cachexia would be noticed, also the more persistent character of the pain.

**Prognosis.**—The prognosis is favorable in the milder forms, but must be guarded where strong corrosives have been taken; for if life be preserved, stricture is apt to follow. Where there is the croupous exudate the amount of the systemic disturbance will have to be taken into consideration.

**Treatment.**—The treatment for this disease will not differ materially

from that for any other part. Only the blandest form of diet should be used. Milk in some form, either as whey or malted milk, is preferable. In some cases small bits of ice are gratefully received. In the way of medication, we think of aconite, rhus tox., hamamelis, and agents of like character where there is no sepsis, but if the suppurative process has been established and there is evidence of sepsis, echinacea, baptisia, sodium sulphite, hydrochloric acid, and potassium chlorate will be the remedies indicated.

## **STENOSIS OF THE ESOPHAGUS.**

**Synonym.**—Esophageal Stricture.

**Definition.**—A diminution of the caliber of the esophagus by cicatricial contraction, thickening of its walls, or by pressure from growths.

**Etiology.**—The most common cause is due to an injury of the mucous membrane by corrosive fluids, resulting in cicatricial contraction. A chronic inflammation of the tissues of the tube may result in thickening of the same, thus lessening its caliber. Cancerous infiltration in the walls of the esophagus is not an uncommon cause. More rarely contraction from tubercular, syphilitic, or variolous ulcerations takes place. Pressure from without by growths, either malignant or benign, is an occasional cause. A wound of the esophagus may also cause stenosis by contraction during the repair of the injury.

**Pathology.**—The stricture may involve any portion of the tube, and may be very slight, or so severe that fluids pass with difficulty. It may be confined to a part, or involve the entire organ. If the lower third be affected there will be dilatation of the upper portion, with hypertrophy of the walls.

**Symptoms.**—These depend largely upon the degree of obstruction, the location of the stricture, and the causes producing it. Difficulty in swallowing, more or less, is a distressing feature in all cases; though, at first, but slight, and when some substance larger than usual is swallowed. A sense of constriction and a dull, tensile pain are experienced. As the stenosis increases, the dysphagia becomes more marked. If the stricture be located in the lower part, more or less food accumulates in the dilated upper portion, to be ejected three or four

hours later. This is alkaline in reaction and contains mucus and sometimes pus and blood. If there be ulceration, pain is experienced on taking food. The general health suffers in proportion to the degree of the stricture and impairment of the nutrient material. If the stricture be due to cancer, the continued dull pain, with occasional darting pains, the distressing dysphagia on taking food or drink, the presence of blood in the ejected food, and, above all, the gradual emaciation, the yellow, waxy, sodden cachexia, will be characteristic.

**Diagnosis.**—This is readily made by the symptoms already described, though, to be positive, the esophageal sound should be used, when we readily determine the location and degree of the stricture.

**Prognosis.**—It is unfavorable in the large majority of cases. Where, there is but little structural change, repeated dilatation will effect a cure.

**Treatment.**—It is very doubtful if medicines produce any influence on this unfortunate condition. The treatment, therefore, will be entirely mechanical. The frequent and careful dilatation, with graduated sounds, will effect a cure where the stricture is confined to the mucous or submucous tissues. Where there is cancerous infiltration, the sound should be avoided as it only sets up irritation, causes pain, and generally aggravates the disease. Galvanism, in the hands of one thoroughly capable of using it, promises much, though the uninstructed had better not attempt its use. Spasmodic stricture occurs in females between the ages of eighteen and thirty, and who are hysterically inclined. The treatment in such cases will be symptomatic, antispasmodics being most frequently indicated. Should it be reflex, the exciting cause should be sought till found and removed, when the spasm will cease.

## VI. DISEASES OF THE STOMACH.

### ACUTE GASTRITIS.

**Synonyms.**—Gastric Catarrh; Acute Dyspepsia; Simple Gastritis.

**Definition.**—An acute inflammation of the mucous surfaces of the stomach.

**Etiology.**—The most common causes of acute gastritis are errors in diet or method of eating. We live in age where competition is strong, and travel at a pace incompatible with health. The business man hurries through his meal, only partially masticating his food, and washing it down with large quantities of fluid. Children catch the infection, and hurry through meals in order to reach school or resume play, and this continued rush of American life is productive in a high degree of stomach disorders.

The character of food also must be considered; for tainted food, or that in which the fermentative processes are just beginning, act as irritants. Overloading of the stomach may be an exciting cause, as well as very hot, very cold, or highly-seasoned food. Alcoholic drinks are also responsible for many cases. Where there is a delicate stomach, a cold, with sudden arrest of secretions, may prove the exciting cause.

An attack of cholera-morbus may be attended with vomiting and retching of so violent a character as to be followed by gastritis. Certain diseases are said to predispose to this lesion; such as rheumatism, gout, syphilis, and tuberculosis. Chemical substances taken by design or accidentally must always be considered as irritants.

**Pathology.**—The changes in the gastric mucosa are similar to those of mucous inflammations of other parts. Beaumont's study of the inflammatory condition, through a gastric fistula in the person of St. Martin, shows a reddened and swollen condition of the membrane, while an increased secretion of mucus bathes the angry-looking, membrane.

The gastric juice is deficient in hydrochloric acid, though lactic and butyric acids are in abundance. The mucous and peptic follicles are swollen, and appear granular, with infiltration of the intertubular tissue. The submucous tissue may become swollen and edematous, and ulceration may occur. Hemorrhage not infrequently occurs. The pathological changes are in proportion to the severity of the inflammation.

**Symptoms.**—They will depend largely upon the character and degree of the inflammation. In the milder forms, the local symptoms predominate, and are a marked feature in all forms.

In the milder form the symptoms are those of acute indigestion, the patient complaining of an uneasy sensation in the epigastric region; or there may be a burning sensation, or a dull pain with nausea, and sometimes vomiting. There is distention of the stomach, attended by eructations of gas, which give temporary relief. In children, diarrhea attends, though constipation is the rule in adults.

The tongue is coated, breath sometimes offensive, and patient complains of a bitter taste in the mouth. When food and drink are taken, the pain is aggravated.

In the severer form, all the above symptoms are increased, and chilly sensations precede the fever, which is quite active for a few days, the temperature reaching 102° or 103°. The pulse is frequent and hard, skin dry, bowels constipated, and urine scanty, highly colored, and deposits urates. The vomiting is more persistent, and consists of mucus, bile, and undigested food.

Where the gastritis is the result of swallowing the mineral acids, alkalies, corrosive sublimate, arsenic, etc.—toxic gastritis—the inflammation is intense, the pain severe, and vomiting and retching persistent. The burning sensation is felt in the throat and esophagus as well, and thirst is almost intolerable, the gratification of which increases the vomiting.

The pulse is feeble though frequent, the extremities become cold, the surface clammy, the face pinched and anxious, the forerunner of collapse. The breathing is shallow, and attended by pain. The position is dorsal, with limbs flexed to relieve the tension, the abdomen is tumid, and tenderness is marked; finally, in fatal cases, coma comes on, the breathing is shorter, and death ends the suffering of the unfortunate patient.

**Diagnosis.**—In the milder forms, where there is no fever, the diagnosis is readily made by the local symptoms, but where the disease commences with a chill followed by more or less fever, and there is no previous history of gastric derangement, the disease is readily mistaken for one of the infectious fevers, which mistake is only corrected by later developments. Where the gastritis follows the taking of corrosive salts, mineral acids, or drugs of any character, the diagnosis is readily made

by the history and attendant symptoms.

**Prognosis.**—In the milder cases, commonly known as acute dyspepsia, recovery takes place in from twenty-four to forty-eight hours, while those of a febrile type may persist for several days, and, if followed by indiscretion in eating, the frequent recurrent attacks result in chronic gastritis. Where poisons have been taken, the case is more serious and may terminate in death.

**Treatment.**—In the milder form, all that will be necessary will be to wash out the stomach by having the patient drink freely of warm salt-water and giving the organ perfect rest for twenty-four or forty-eight hours, to be followed by a diet that is bland and easily digested.

In the more severe type, when the stomach is irritable, after the flushing, the small dose of aconite and ipecac will act kindly:

Aconite	5 drops.
Ipecac	5 drops.
Water	4 ounces. M.

Sig. Teaspoonful every hour.

Rhus tox. acts kindly, and where the pulse is sharp, the tongue red, with papilla elevated, rhus replaces the ipecac. Where the nausea and retching are persistent, an infusion of peach-tree bark will often be followed by relief, or bismuth subnitrate one dram, to water four ounces, will afford relief. If the bowels be constipated, they should be opened by an enema, or if the stomach will bear it, a glass of Rubinat condal or Hunyadi may be taken and freely open the bowels. If there be excessive acidity of the stomach, a solution of sodium bicarbonate may be drunk ad libitum.

When poisons have been taken, the patient must be kept quiet in bed, all food by mouth restricted; but mucilaginous drinks may be allowed in small quantities. Ice-cream is grateful to the patient, and may be given sparingly. If the pulse becomes small and thready, and the respiration slow and labored, hypodermic injections of camphor and ether will be called for. This preparation, twenty grains of camphor to an ounce by weight of ether, is one of the most powerful of diffusible stimulants, and can be relied upon in desperate cases.

During convalescence, great care must be taken in the feeding, none but the blandest articles being allowed.

## **PHLEGMONOUS GASTRITIS.**

**Synonym.**—Acute Suppurative Gastritis.

**Definition.**—A suppurative inflammation of the submucous and muscular coats of the stomach.

**Etiology.**—This is an exceedingly rare disease, and nearly always symptomatic, though it has occurred idiopathically as the result of traumatism or intemperance in eating and drinking. It usually follows in the wake of puerperal fever, pyemia, septicemia, and the exanthemata. It is found more frequently among males, and between the ages of twenty-five and fifty years.

**Pathology.**—The inflammation may be limited, gastric abscess, or diffuse. The seat of the inflammation is the submucous tissue, from which it spreads outward, involving the muscular and serous coats ; and inward, invading the mucous membrane, thus giving rise to a honeycombed perforation. The limited form results in an abscess of greater or less proportion, which, rupturing, empties its contents into the stomach, or, perforating the walls of the stomach, empties into the peritoneum. In all cases the mucous and submucous tissues are dusky, softened, infiltrated, and break down during the suppurative process.

**Symptoms.**—These depend upon the primary lesion to a certain extent, the evidence of sepsis being more or less marked. Usually a chill marks the introduction of the disease, followed by fever, the temperature ranging from 103° to 105°. The tongue is dry, brown, and covered with dirty sordes. There is great pain in the stomach, radiating to all parts of the abdomen. Nausea and vomiting soon follow, the ejected material being dark-brown or black in color, and composed of pus, blood, and bile.

The symptoms, now, are all typical in character; coma, with great prostration, occurs, and the patient dies in a comatose condition. There is usually a jaundiced appearance from the beginning.

**Diagnosis.**—This is very difficult during life, the symptoms being similar to those of other grave gastric troubles. The positive diagnosis is only made during a post-mortem.

**Prognosis.**—It is unfavorable, the disease terminating in death in a few days. The limited form may end in recovery, though not often, but runs a longer course before proving fatal.

**Treatment.**—This would be along the line of antiseptics, such as echinacea, baptisia, sodium sulphite, potassium chlorate, etc. To relieve the intense pain, hypodermic injections of morphia will be necessary.

### **PARASITIC OR MYCOTIC GASTRITIS.**

Fungi sometimes infect the mucous membrane of the stomach, giving rise to the inflammatory process. The favus fungus has in this way given rise to gastritis as reported by Kundrat, while the sarcinae and yeast fungi, in all probability, aggravate, if they do not produce, chronic gastritis. The anthrax bacillus has been known to give rise to ulceration of the mucosa, while the larvae of certain insects produce a like effect. Diphtheria, tuberculosis, syphilis, and other infectious diseases, may attack the mucous membrane, giving rise to gastritis. In all of these, however, the symptoms are not sufficiently characteristic to be diagnostic.

### **CHRONIC GASTRITIS.**

**Synonyms.**—Chronic Dyspepsia; Chronic Catarrhal Gastritis.

**Definition.**—A chronic inflammation of the gastric mucosa, increasing the mucous secretion, changing the character of the gastric juice, establishing conditions favoring the process of fermentation, enfeebling the contractility of its muscular coats, and so changing its integrity as to render normal digestion impossible, and frequently resulting in structural changes.

**Etiology.**—The same causes that give rise to acute gastritis, if continued, will result in this disease. In nearly all cases the causes may

be summed up in a single word,—abuse. Rapid eating results in imperfect mastication and insalivation, and the coarse, starchy food, that should have been changed by the ptyaline into glucose, is washed into the stomach by one, two, or three cups of hot drinks or ice-water, either of which not only acts as an irritant, but also weakens the juices of the stomach to such an extent as to destroy largely their function.

Improper food, either as to quality or unfitness of preparation, is not an infrequent cause, while the use of alcoholic and malt liquors is one of the most common of all the exciting causes. Tobacco smoking and chewing are fruitful sources of dyspepsia, and lead to debility of the stomach.

The condition of the mouth must not be overlooked as an etiological factor. Neglect of the toilet of the mouth permits accumulations of food between the teeth and in cavities, which undergo decomposition, furnishing a rich soil for various bacteria, all of which find their way into the stomach to act as irritants.

The disease is not always primary, and constitutional causes must be recognized. Tuberculosis, syphilis, diabetes, Bright's disease, anemia, gout, and many others, are known factors in producing this lesion. All diseases affecting the portal circulation must be taken into consideration when looking for a cause. We are not to forget a very important, though often overlooked, etiological factor, that of chronic diseases of distant organs, the gastritis being reflex.

In this line, rectal diseases occupy a very prominent place. Hemorrhoids, prolapsus of the bowel, fissures, and fistulous ulcers. rapillse and undue contraction of the sphincter, so often give rise to gastritis that to overlook these points is to court defeat in attempting a cure. Disease of the uterus, ovaries, and tubes, the urethra and bladder, frequently come in for their share of the blame. Wrongs of the blood influence the secretion of the juices of the stomach, thereby impairing their function, causing more or less derangement.

**Pathology.**—Two forms are now generally recognized by pathologists,—the simple and more common form, and the sclerotic.

In the first, the greatest changes take place in the mucous membrane near the pylorus, though, in the more severe and longer-continued

cases, the entire mucous and submucous tissues are involved. The mucous membrane may be a bright-red or a pale or grayish color. It is covered profusely with a firm mucoid secretion. The swelling of the mucous membrane produces elevated folds, which give it a mammillated appearance, with here and there ecchymotic patches. This is especially marked at the pylorus, and where the submucous and muscular tissues are involved, there may be, quite a marked degree of stenosis.

Erosions and follicular ulcerations are not uncommon. The microscope reveals a marked infiltration of the interstitial tissue, with fine cells and parenchymatous changes, especially degeneration of glandular cells.

Eichorst says: "The superficial epithelium of the gastric mucous membrane will be found involved in marked mucoid degeneration. The glandular cells exhibit granular turbidity, are in part shrunken and uniform, so that the differentiation between the parietal cells and the chief cells is lost. Accumulation of round cells, in greater or less number, has taken place between the gland tubules. The blood-vessels are dilated and greatly distended. Not rarely, remains of blood pigment are present, indicating and preceding hemorrhage."

As a result of this interstitial and parenchymatous change, the process may go on to complete atrophy, sclerotic gastritis, and may assume one of two forms: either a thinning of the coats of the stomach, simple atrophy, or phthisis ventriculi, where the normal size is retained "or even increased, or there will be an enormous thickening of all tissues, resulting in a marked decrease in its volume. This is known as cirrhosis ventriculi.

In the first form there is a gradual increase in the interglandular tissue, resulting in a progressive degeneration or obliteration of the gland-cells and arrest of its function. The mucous membrane presents a thin, smooth, white surface, which is dry and devoid of mucus.

In the second form, there is also a destruction of the gland cells, and consequent loss of function, but in this case there is enormous thickening of the walls of the stomach, by the overgrowth of both connective tissue and muscular fibers. As a result of the hypertrophied tissues, the cavity of the stomach may be so lessened as to hold but a few ounces.

**Symptoms.**—In chronic dyspepsia, which is but another name for chronic gastritis, the symptoms are legion, and embrace a wide range both as to local and systemic manifestations.

Among the earlier symptoms are a sense of weight and oppression after eating, which may last for hours, and, as the patient expresses it, has the sensation as though he had swallowed a stone or piece of lead; in addition there is actual pain of a burning or cramping character. This may follow shortly after taking food or may not occur for three or four hours thereafter. Later on in the disease, flatulence is a common and distressing symptom, the patient being compelled to loosen the clothing to get the slightest relief. Accompanying this, there are eructations of gas, or gas and acrid fluids combined. Nausea is frequent, and occasionally vomiting occurs a short time after eating. Where the patient is addicted to the drink habit, there is apt to be vomiting in the morning.

The vomitus consists of food mixed with slimy mucus. The tongue is usually broad, pale, moist, and more or less heavily coated, the breath offensive, and there is a bitter taste in the mouth. Sometimes the tongue is red and sleek, or red at tip and edges.

In the more severe cases, as fermentation proceeds in the stomach, there is a spasmotic closure of the pyloric orifice, and, simultaneously with this, a similar spasm of the esophageal opening occurs, and the imprisoned gas distends the stomach till its pressure upon the sensitive nerves of the heart brings on palpitation and frequently excruciating pain in the cardiac region, known as cardialgia. The patient, thoroughly alarmed, presents a frightened or anxious appearance, and the attack increasing in severity, gives rise to vertigo, and the suffering is not infrequently relieved by the patient becoming unconscious.

The appetite is capricious, sometimes ravenous, though, as a rule, there is but little relish for food. Digestion is slowly and but imperfectly performed; hence there is a period in nearly every case of chronic gastritis of diarrhea. The undigested food, passing into the intestinal canal, acts as an irritant, and frequent stools follow. This is, in turn, followed by constipation; the bowel, failing to respond to the irritant, becomes sluggish, there is an excess in the secretion of mucus, and the stools are more or less incased in mucus.

Headache is common, and, of all men, the dyspeptic is the most

miserable. He becomes melancholy, and the world is a vast vale of tears. Hydrochloric acid is usually deficient, though butyric, lactic, and acetic acids are found in abundance.

On washing out the organ, we find undigested food that has lain for hours in the stomach. A microscopic examination reveals various bacterial organisms, yeast fungi, and the sarcinae ventriculi. A viscid, slimy mucus is found in large quantities, and the pale and doughy skin, together with a like abdomen, tells of general atony.

A stomach cough is sometimes a distressing symptom, and in one case that came under my notice the cough was the most distressing feature, and the one condition for which he came for treatment. When informed that his trouble was in the stomach, he doubted the diagnosis; but a few months'-treatment directed entirely to the stomach effected a complete cure.

Although dull and drowsy after a meal, the patient may become perfectly wide awake on retiring, and insomnia may be one of the most troublesome and intractable symptoms.

**Diagnosis.**—If attention be paid to the following points, the diagnosis is easily made: 1. History; the period of dyspepsia being very lengthy. 2. Carefully noting the afore-described symptoms. 3. By examining the contents of the stomach at different intervals after eating. If we remove, by the stomach tube, the contents of the stomach one or two hours after a meal, we find very little hydrochloric acid, but a great deal of mucus, butyric, and lactic acids. If the tube be used in from six to seven hours after a meal, we still find undigested food in the stomach, whereas in functional dyspepsia the stomach should be empty.

There may be some doubt in distinguishing this from cancer, where there is no tumor present, though even here we would have the pronounced cancerous cachexia in the latter disease, and also the presence of the coffee-ground material. In ulceration of the stomach, the boring, gnawing pain, together with vomiting of clotted blood, and the hyperacidity of the gastric contents, enables one to be quite positive in his diagnosis.

**Prognosis.**—This will be favorable in the large majority of cases, unless there be a malignant complication, gastric ulcers, or structural change

in the tissues of the stomach. Remembering that it is often reflex, our attention is early turned to the orifices of the body, which often saves one weeks or months of useless medication. The most satisfactory results may be obtained if we keep in mind the *nature* of the disease, and do not attempt to cure the patient in a few weeks.

**Treatment.**—One of the most important means to insure a successful treatment is to impress your patient with the importance of following instructions to the very letter. Be positive in directions as to *diet*, and the battle is won before a dose of medicine is administered.

The diet, then, is of first importance. I find it a good plan to name the articles of diet that *may* be eaten before I give my list of *don't's*; for if you begin by naming a long list of edibles that are to be strictly forbidden, your patient is at once discouraged. I do not believe in *fasting*, so say to my patients, you can eat the following articles, unless you find by experience that they do not agree with you: Rare, broiled, tender beefsteak; rare roast-beef, inner cut; broiled or roast chicken; stewed or broiled sweetbreads; young squirrel or lamb chops—these meats to be taken sparingly.

Of vegetables, a small baked potato, young and tender string-beans, young peas, spinach, etc. Light bread, at least twenty-four hours old, and cooked fruits of a subacid character. After naming this diet, the patient is your friend; he has been told that he is to live on skimmed milk, and he is charmed to find plenty of wholesome food on his diet list.

Now name the forbidden articles. No *pork* in any shape, no *veal*, no *smoked* or *pickled* meats, no *duck* or *geese*, *nothing fried*, no greasy food, and, as all fried victuals are greasy, this method of cooking *must* be avoided; no *hot* bread, no *biscuits*, *muffins*, *waffles*, or *griddle-cakes*; not very much in the line of sweets are allowed, and honey, syrups, jams, and preserves are also to be forbidden. *Pies*, *rich pastries*, and *puddings* are also to be placed on the forbidden list. The patient has agreed to all you have said about the diet, but now you must be firm in your last restriction.

*No fluids* to be drunk *during a meal*; in other words, a *dry* diet. No *tea*, *coffee*, milk or water, *while* eating, nor for *two* hours afterward. This is where the greatest fight is to be made. Your patient has acquiesced in all that you have said thus far, but when you say no fluids, he resents

advice. Explain why he should avoid fluids, and he is won over. Tell him the reason of your restriction; that if he does not drink while eating, he will more thoroughly masticate his food; that in mastication the salivary glands are excited, and the food becomes moist with this secretion; that the ptyalin contained in the saliva converts the starchy portion of the food into glucose while yet in the mouth, and that one of the most important steps in digestion takes place in the mouth; that this step is destroyed when he drinks during a meal; that the food is bolted, or washed into the stomach imperfectly masticated and imperfectly salivated; that the gastric juice can not do the work of the saliva. Then, again, tell him that when he drinks while eating, the juices of the stomach are so diluted that digestion is delayed, that fermentation begins, and the nutrition of the food is largely destroyed. Tell him that man is the *only* animal that drinks at his meals, and that he is the *only one* that has dyspepsia. After talking to him in this common-sense way, he sees the reasonableness of the order, and is ready to obey to the letter. Of course, if he is a drinker of spirituous and malt liquors, these will have to be discarded; it is the price he has to pay to secure health.

The meal should never be eaten hurriedly, and all business or social cares should be left behind. The meal, however, should be a pleasant one, when all care is banished. Of course there will be some patients that can not have so liberal a diet as that already outlined, and they may even be restricted, for a few weeks, to milk and lime-water, malted milk, buttermilk, albumen water, chicken-broth, oyster-soup, or lamb-broth.

What will agree with one patient can not be taken by another, and the patient is to understand that, when he finds an article which disagrees with him, he is to discard it, even if he does find it on his list of things allowable.

Hygienic measures are of great importance. The patient should be in the open air as much as possible. All exercise, however, should stop short of fatigue. Walking, horseback riding, bicycling, boating, and light gardening, are all beneficial if not severe. Breathing exercises are among the most beneficial.

A cold sponge-bath, followed by a vigorous rub down with a coarse towel, will set the blood to moving in the capillaries, and prove of benefit. When the patient has the means, a change of climate or place

will work wonders. A visit to the seashore, to the mountains, or to the lakes, will put new life into the patient; new faces and new scenes enable the patient to *forget* that he has dyspepsia, and his eye grows brighter, a new color comes to his cheek, the coating disappears from the tongue, and the patient, by getting away from himself, has assisted the physician in effecting a cure.

**Medicines.**—Before giving any remedy, we are to remove, as far as possible, any cause that is producing or continuing the disease. I have already called attention to the rectum, uterus, and urethra as outside causes, and where these troubles exist they should be corrected before medicating our patients. If associated with renal, hepatic, or cardiac lesions, our attention must be directed to these as well as to the local disease.

In order to receive the best results from our remedies, we must, place the stomach in such a condition that our medication can be readily appropriated. If there are large quantities of tenacious, viscid mucus in the stomach, our remedies will fail to influence the disease. It is of prime importance, then, to get a clean stomach for our base of operations. This can be best accomplished by the lavage tube, and, though disagreeable and unpleasant at first, the patient soon becomes accustomed to it, and can readily wash out the stomach without the aid of the physician. One of my patients had a nozzle and a stopcock attached to a fountain syringe; then, introducing the tube into the stomach, she would slip the free end of the tube on to the nozzle, turn on the water by means of the stopcock, and when the proper amount of water had been taken, a simple turn of the thumb and finger cut off the supply, and, slipping the tube from off the nozzle and depressing the end, the stomach would be emptied of its contents: then, without removing the tube from the stomach, she would again attach her hose to the nozzle, turn on the stream, and proceed in this manner till the water returned clear; We may use plain warm water or a weak solution of salt water; or a small quantity of sodium bicarbonate or boracic acid may be added.

If there be hyper-acidity, it is good treatment to allow four or six ounces of the alkaline water to remain in the stomach. If there be much mucus and the gastric juice is excessively acid, it is frequently due, not to hydrochloric acid, but to the organic acids; in such cases the administration of hydrochloric acid will be attended with much benefit. If there be atrophy of the peptic glands and a defect of mucus, a reliable

preparation of pepsin will prove of great benefit. With this exception, however, the beneficial effects of pepsins are greatly exaggerated. Pancreatin is also of much value in cases of this kind.

Nux Vomica	10 drops.
Phosphate of Hydrastin	10 drops.
Water	8 ounces. M.

Sig. Teaspoonful every four hours.

This will be one of the best prescriptions where there is general atony, pale tongue, slight nausea, bad taste in the mouth and a white ring around the lips.

With these conditions there is generally fullness of the abdomen, sluggish condition of the bowels, doughy condition of the skin, and all the evidences of atony at large.

Where there is great irritation of the stomach, small doses of aconite and ipecac will often give relief, though their happiest effect is to be seen in the acute disease. An infusion of the bark from young peach-twigs will nearly always give relief where there is great irritation.

Where there are acrid eructations, attended by a burning or scalding sensation, known as water-brash, subnitrate of bismuth or liquor bismuth will be useful. Where there is marked tenderness over the epigastrium, the older Eclectics obtained excellent results from the application of the old compound tar-plaster, known as "irritating plaster." This was allowed to remain till it produced a crop of pustules, after which it was dressed with simple cerate. As soon as it was healed, a fresh plaster was applied, and this treatment continued till all irritation disappeared. The same results may be obtained by the use of the thapsia plaster, which is not quite so severe; or we may use the old vinegar pack, which consists of a towel wrung out of vinegar-water, and applied on going to bed, a dry roller bandage applied over this; on rising, the pack is removed, and the abdomen sponged with salt water.

Where there is torpor of the liver, with pasty, yellowish coating on the tongue,—

Tincture of Leptandra      1/2 dram.

Nux Vomica	10 drops.
Water	4 ounces. M.

Sig. Teaspoonful every four hours.

The second or third trituration of Podophyllin will also be found very useful in these cases. Where the patient is constipated, fifteen or twenty grains of sodium phosphate two or three times a day will be found to give good results, though the prolonged use of any cathartic is to be discouraged; rather have the patient resort to kneading the bowels for five minutes in the morning before rising; after which instruct him to drink a glass of cold water, to which is added a drop of nux vomica, and after breakfast, at a regular hour each day, solicit a stool. This method, if persisted in regularly for several weeks, will overcome the most persistent and obstinate constipation. To encourage the bowels to move, the first few days an enema of glycerin four ounces, to water one pint, may be used.

As the gastric irritability subsides, or if a hypersecretion of mucus has been overcome, a tonic treatment will be of marked benefit. The old compound tonic mixture, the triple phosphate of iron, quinia, and strychnia, will be found beneficial in half-teaspoonful doses.

Nux and hydrastin are also quite helpful in these cases. Where the skin presents a yellowish or tawny appearance, chio-nanthus will afford relief.

When the patient grows nervous, and the pulse shows cardiac irritability, pulsatilla and cactus will be called for. Dr. Webster speaks very highly of tincture of [H]aploppappus laricifolius in from two to ten drop doses with these same symptoms.

## DILATATION OF THE STOMACH.

**Synonyms.**—Gastrectasis; Gastrectasia.

**Definition.**—An acute or chronic enlargement of the gastric cavity by over-distention, resulting in the retention, for a long period, of food and the products of digestion.

**Etiology.**—Dilatation of the stomach may occur either as an acute or chronic condition, though the former is the more rare. Acute dilatation is the result of enormously dilating the stomach either by food or drink, especially the former, which may result in paralytic dilatation.

The chronic form more frequently results from stenosis of the pyloris than all other causes combined. This may be due to cancerous infiltration, to ulceration and subsequent cicatrization, or to thickening's of the tissues, the result of chronic inflammations. It may also be due to adhesions from below, as of the liver, pancreas, and gall-bladder, or from pressure from without by tumors or malignant growths.

In rare cases the stenosis is congenital. According to Kussmal, the stomach may assume such a position as to twist the pylorus in such a way as to produce stenosis. Dilatation, however, may occur without a narrowing of the pyloric orifice, as the result of atony of the muscular coats due to gormandizing, fearfully distending the stomach by ingesting large quantities of food or drinking large quantities of beer. The erosion of the mucous membrane in chronic gastritis may weaken the organ to such an extent as to furnish conditions favorable for distention. Impairment of the nerve-supply, together with faulty nutrition, will give us enfeeblement of structure, and thus lead to increased capacity.

**Pathology.**—We are to remember that an abnormally enlarged stomach does not necessarily mean dilatation of the organ. According to Ewald, a recognized authority on gastric troubles, the capacity of the stomach to come under the head of dilatation must be fifty-three ounces or more. Where the dilatation is extreme, the intestines are crowded downwards into the pelvis, while the liver, spleen, and diaphragm are made to occupy a much higher position than the normal. The character and degree of the dilatation also vary. Thus, where the dilatation is the result of stenosis of the pylorus and final thinning of all the gastric tissues, the distention is regular and uniform, while in cases where erosions or ulcerations precede the distention, there the dilatation is extreme.

My colleague, Dr. W. E. Bloyer, reports a case of dilatation in a young woman, where anemia and general debility were the causal factors, which extended to within a few inches of the pubes, or to a line drawn from the crest of one ilium to the other.

Where there is pyloric stenosis, the first effect is hypertrophy of the gastric walls; but later this is followed by atrophy, the walls becoming very thin, and the muscular fiber may show fatty degeneration. Where there is no stenosis, the walls become exceedingly thin, the muscular fibers becoming only a trace of the original.

**Symptoms.**—The early symptoms of dilatation are not at all characteristic, and depend largely upon the causes producing the lesion. There is always evidence of indigestion, and in the acute form there may be pain and tenderness in the epigastric region. There is an unpleasant sensation in the cardiac region, finally amounting to palpitation, extreme pain, sometimes resulting in unconsciousness.

In the chronic form, the most characteristic and diagnostic symptom is the vomiting of large quantities of food and blood, from one to three gallons at intervals of from one to three days. The vomitus consists of particles of food from several meals, mixed with more or less mucus, and is sour and foul-smelling; lactic, acetic, and butyric acids, and various bacteria, sarcinse, and yeast fungi are found in abundance. Fermentation is rapid, the mass being frothy, and, on standing, separates into three layers,— “a brownish foam, a middle layer of yellowish brown, and finally a layer of cloudy liquid and undigested food.” (Ewald.)

The appetite is variable, though hunger and thirst are usually marked features. Where there is stenosis, there is usually constipation of an obstinate character. There is frequent retching of an acrid and offensive material, attended by a burning sensation. The tongue is always coated, and the breath unbearably fetid. The gradual dilatation produces cardiac disturbances, such as palpitation or dyspnea.

The skin is dry and constricted, and as nutrition and assimilation are more and more marked, emaciation is progressive. Kussmal was the first to call attention to tetanoid spasms resulting" from dilatation of the stomach. They were attended by pain, and occurred in the foot, leg, calf, hand, arm, and abdominal muscles.

**Physical Signs.**—*Inspection.*—The knowledge obtained by inspection depends largely upon the condition of the abdominal walls. If thin and the dilatation is marked, a bulging of the left hypochondrium, the

epigastrium, a portion of the right hypochondrium, and also a portion of the umbilical regions, will be noted, the greatest fullness being on the left side. If the bulging be very low, the "troughlike depression" of Ewald is seen immediately above it, and is most likely the result of the long axis of the stomach assuming a vertical position. When this distention is not visible, it may be seen by inflating the stomach by means of a pump.

*Percussion.*—The outline of the stomach can be readily made on distending it with air, as above described. If the transverse colon be distended with gas, and doubt exists as to the condition, have the patient drink freely of water, one or two pints, and, while standing, percuss the same region, and the dullness will be readily outlined, the resonance beginning immediately above.

*Auscultation.*—The splashing sound heard one or two hours after drinking is suggestive of dilatation, and if the stomach be siphoned after the above test, and the splashing sound disappears, the evidence is conclusive.

*Diagnosis.*—This is reasonably positive, if the symptoms already noticed are kept in mind. The vomiting of large quantities of food every two or three days, the chemical condition of the vomitus, and the physical signs already named, are sufficient evidence to warrant a diagnosis; however, an abnormally large stomach may be confused with one of dilatation.

*Prognosis.*—In some of the acute cases, the prognosis is favorable; but in the chronic forms, the prognosis is unfavorable, and a careful and guarded statement should be made to the patient. Thus, if the dilatation be due to stenosis, the result of malignant infiltration, not only will there be no amelioration in the patient's condition, but death will follow speedily; while in stenosis from other causes, the prognosis will be favorable as to life, but unfavorable as to a cure for the dilatation.

While, in rare cases, a dilatation, resulting from enfeebled condition of the walls of the stomach, may be permanently cured, in the great majority of cases, such changes have taken place in the tissues as to preclude a permanent cure, though treatment may render the patient quite comfortable.

**Treatment.**—Lavage, which was first introduced by Kussmal in 1867, is one of the most important parts of the treatment. By this method the

stomach is relieved of all irritating substances, the process of fermentation prevented, and the stomach, cleansed and emptied, is given an opportunity to rest and contract. The many distressing symptoms which result from indigestion are thus avoided. Vomiting is less frequent and gastric distention reduced to the minimum.

In the more pronounced cases, the stomach should be washed out daily, though two or three times a week will suffice after a few weeks' treatment. We can use asepsin in the water where fermentation is marked or where the odor is offensive. Where the mucus is abundant, sodium bicarbonate will be of much benefit. Boracic acid is also useful in many cases. Siphon out the fluid till it leaves the stomach perfectly clean. Some cases will be benefited by allowing several ounces of the alkaline wash to remain in the stomach.

The best time for washing out the stomach is just before breakfast or before the midday meal, thus interfering as little as possible with digestion. Should there be ulceration, and the introduction of the tube result in much pain, lavage will have to be abandoned.

Next in importance is the diet of the patient. He should take as little fluid as is consistent with health. All food taken must be of the most digestible nature, and be taken in small quantities. Starchy, fatty, or sweet foods should be restricted. Predigested foods are well received, and produce but little discomfort. Peptonized milk and meat preparations are valuable. Alcoholic and malt drinks are to be prohibited.

To add tone to the stomach and increase the muscular power of the organ, nux vomica and hydrastin phosphate will be found of special worth. Strychnia will be useful for the same conditions. Galvanism and faradism will also be found useful in stimulating muscular contraction. Rubinat condal, PIunyadi, or Carlsbad waters will relieve the constipation that attends nearly all these cases.

## **GASTRIC ULCER.**

**Synonyms.**—Peptic Ulcer; Rodent Ulcer; Round Ulcer; Penetrating Ulcer, etc.

**Definition.**—A well-defined round or oval ulcer, due to the action of

the gastric juice upon some portion of the mucous membrane, which has been weakened by some impairment of nutrition. It penetrates the mucous membrane and sometimes the entire gastric wall.

**Etiology.**—Dyspepsia in its various forms undoubtedly predisposes to peptic ulcer; in fact, any disease whereby the blood is impoverished favors this condition. The fact that about five per cent of all autopsies held show either ulceration or cicatrization is evidence that the disease is more frequent than is generally known.

It is more common in females than in males, possibly due to the method of dress, the stomach being pressed by corsets and tight lacing, and partly due to closer confinement. Tailors and shoemakers are prone to this condition, due, most likely, to position, causing pressure upon the stomach. It occurs most frequently in persons between the ages of twenty and forty, though it is not infrequent in children.

The exciting cause is no doubt hyperacidity of the gastric juice and the mucous membrane being digested, as it were, by its own juices. Chronic gastritis often precedes, and no doubt is often the cause of the ulceration. Some pathologists regard the disease as a neurosis. The disease is quite often secondary to anemia and chlorosis, and in women with menstrual disorders. These diseases tend to acidity of the blood, thereby favoring the digestion of the mucous surface.

Traumatism of the stomach or external injuries over the epigastrium have also been regarded as being responsible for this condition.

**Pathology.**—Usually there is but a single ulcer, though two or more are not uncommon, and Berthold reports a case where he found thirty-four ulcers. The usual location is near the pylorus and on the posterior wall, though they may be found in any portion. The shape is generally round or oval, with clear-cut, well-defined edges. In the more acute form it has the appearance of being made with a punch, and there is but little, if any, inflammation of the neighboring tissue, but in the more chronic variety, the edges are not so clear-cut, and infiltration gives them an indurated condition.

In size they vary from that of a dime to an inch or more in diameter, and when of undue size, the result of the coalescence of two or more, they are usually funnel-shaped, and extend to various depths, the base

consisting of the submucosa, the muscular tissues, or, perforating the organ, may have for its base new tissue, the result of adhesions which nature has formed to prevent a fatal issue. Thus adhesions may form with a portion of the left lobe of the liver, with the pancreas, the spleen, the omentum, or the diaphragm.

The perforation may be into the lesser peritoneal cavity, giving rise to subphrenic pyo-pneumothorax; or it may enter the pleura, the gall-bladder, the transverse colon, and even the ventricle of the heart. Where the ulcer is located on the anterior wall and perforation occurs, it most frequently produces peritonitis, terminating in death. Again, the ulcerative process may penetrate the blood-vessels, giving rise to hematemesis, and if of the larger vessels, as the splenic artery, a fatal hemorrhage results.

In the chronic ulcer of long standing, there is more or less gastritis associated with the ulceration.

In the healing process various changes result. Where the ulcer is superficial, extending simply through the mucous membrane, cell infiltration takes place, the edges contract, and the cicatrix is smooth and sometimes invisible. Where the ulcer is located near the pylorus and extends to the muscular tissues, the contraction results in stenosis, which is followed by dilatation. Where several ulcers are found near the middle of the organ, forming a girdle, as it were, the cicatrization and contraction give rise to the hour-glass form.

In some cases there is no attempt to heal, and the ulcer presents an irregular, ragged appearance, with indurated edges. The adhesions of the stomach depend upon the location of the ulcer, and while nature has kindly prevented a fatal issue by her handy work, the contractions attending the same are sometimes followed by severe pain, which is difficult to relieve.

**Symptoms.**—These may be so pronounced as to render a diagnosis almost positive, or so obscure that the disease is only determined post-mortem. In the earlier stages the symptoms are those of dyspepsia or chronic gastritis; but as the disease progresses, the more positive symptoms, pain, vomiting, and hemorrhage develop, and when all are present ulceration of the stomach is assured.

The pain at first is but slight, and consists of a burning or gnawing sensation, more marked after eating. As the disease advances, the pain increases, and is present a great deal of the time, though most severe immediately after taking food, especially very hot or very cold fluids, also very acid or very highly-seasoned dishes, and where the food has been but poorly masticated. In some cases the pain is severe when the stomach is empty, the opposing surfaces producing enough irritation to cause suffering.

Pressure sometimes gives relief, and the patient may lie across a chair or at full length upon the floor. Usually, however, there is tenderness over the epigastric region, and the patient can not bear anything tight over the stomach. The pain is circumscribed, and located just below the xiphoid cartilage; from this point it may radiate to the back between the scapulae, and also to the abdomen. A corresponding painful point is over the eighth, ninth, or tenth dorsal vertebra; prolonged exertion or emotional excitement increases the pain. In advanced cases, the gnawing, boring, or burning pain, confined to a spot about the size of a silver dollar, just below the ensiform cartilage, is a characteristic symptom of much value.

Nausea is one of the early symptoms, with loss of appetite; but as the disease becomes more chronic, vomiting occurs in perhaps half the cases. This usually occurs in from one to two hours after eating. The vomited material usually contains an excess of hydrochloric acid. As a result of the inability to retain food, the patient loses flesh and strength, and presents an anemic appearance.

Hemorrhage is a symptom of great importance, and, when preceded or accompanied by the others above mentioned, is almost conclusive evidence of the disease. It varies very greatly, sometimes so slight as to pass unnoticed, the blood passing into the bowel thus escaping notice; at other times, it is so profuse as to endanger life, though this is very rare.

Where the hemorrhage is from the smaller capillaries, it is mixed with the vomitus, and appears about the color of coffee-grounds. Where the ulceration eats into an artery, the hemorrhage is more profuse, and is ejected as clear blood, or, remaining in the stomach for some time, is finally vomited in large, dark clots. When it passes into the bowel, the stools are tarry in character. Where the hemorrhages are frequent and profuse, the patient soon presents an anemic appearance. When

perforation occurs in the abdominal cavity, peritonitis ensues, should the patient not succumb to collapse.

**Diagnosis.**—A well-marked case of ulceration, with the three characteristic symptoms—*pain* of a *boring*, *gnawing*, or *burning* character, located at or just below the xiphoid cartilage, and which point can be covered by a silver dollar; *vomiting* of *food* highly acid in character from a few minutes to two hours after eating, and *hemorrhage* in either large or small quantities— makes the diagnosis plain; but when hemorrhage is absent, which is the condition in fifty per cent of all cases, the diagnosis is not so clear.

Where there is severe gastralgia, and it is confined to a small surface, with a painful dorsal point, and vomiting of a highly acid character, we are justified in making our diagnosis. In gastralgia, which is most likely to be confounded with this, the pain is more diffuse and not so persistent.

Eating in most cases gives relief for some time; while in ulceration it only aggravates. Vomiting affords relief in ulceration, while in gastritis there is but little relief, if any. In ulceration, there is not the hard, indurated tumor that is found in cancer, nor do we find the vomited material in the latter disease so acid in character. Eating produces but little additional pain in cancer, while pain is intensified by taking food in ulcer. The age of the patient is somewhat significant, as cancer usually appears only after middle life. A certain per cent of cases, however, are only recognized post-mortem.

**Prognosis.**—This depends upon several conditions, such as the duration, extent, and whether or not there has been hemorrhage. In recent cases the prognosis is favorable, while many of a more chronic character recover. When perforation occurs and there is much structural change, our prognosis should be guarded. Taking all cases, from sixty to eighty per cent recover.

**Treatment.**—In the earlier stages the treatment will be similar to that for gastritis, which it so closely resembles; but as soon as the symptoms are sufficiently pronounced to warrant a diagnosis, the patient must be put to bed and kept absolutely quiet. He must be given to understand that a cure means from four to six months in bed. Nothing will take the place of rest in the recumbent position. The diet must receive particular

attention, for the most skillful line of medication will fail if we neglect this phase of the treatment. Only the blandest and most easily digested food should be allowed, peptonized foods being among the best. Where there is great irritability of the stomach and vomiting, the stomach should have absolute rest, nourishment being given by the rectum. As soon, however, as the stomach will tolerate food, I prefer giving it by mouth.

Pepsin whey is one of the blandest and most kindly received foods that can be given; mailed milk, Eskay's food, and Wells, Richardson Co.'s cereal milk are also well received. It is a good plan to change the food every two or three days, so that the patient will not tire of any one food. Where the stomach is in a rebellious mood, albumen water is generally well received. The white of one egg, stirred in a half glass of water, and taken at one time, or, in smaller quantities, one or two hours being consumed in the taking, will be found helpful. Bovinin is highly recommended, although I have used it but little, and can not speak from experience.

Some patients do well on ice-cream. After a few days or weeks the dietary may be enlarged, and may be made to include scraped beef, well-cooked rice, sweetbreads, the white meat of chicken, lamb, or clam-broths and cooked fruits, care being taken not to overfeed.

The administration of remedies will be selected for the special conditions present. To relieve the nausea and vomiting, an infusion of peach-tree bark will often give most happy results, or mint-water and bismuth subnitrate. Where the vomiting is persistent, the stomach should be washed out with a weak solution of sodium bicarbonate, though much care must be taken in using lavage, or harm, rather than good, will result.

If there be increased secretion, hamamelis, collinsonia, and liquor bismuth will be of benefit. Lloyd's colorless hydrastis is also a good agent in this condition. Where there is constipation, a glass of Hunyadi or Carlsbad water will be useful; the latter may be improvised by taking sodium sulphite five ounces, sodium bicarbonate two ounces, and sodium chloride one ounce; of this add a heaping teaspoonful to one pint of warm water, and drink freely. This is useful in overcoming the excessive acidity of the stomach.

Where there is passive hemorrhage, carbo-vegetabilis 2x, in ten-grain doses, will do nicely, but when the bleeding is active, ergot, hypodermically, will succeed better. For intense pain, morphia, hypodermically, will give relief, but should be used cautiously, that the patient do not contract the morphia habit. Where the hemorrhage is so profuse as to endanger life, intravenous injection of normal saline solution will be called for. Where perforation occurs, prompt surgical measures should be taken.

The older Eclectics secured good results from counter irritation, using the old compound tar-plaster, but patients of to-day would hardly submit to such unpleasant methods; for, to be effective, it must be carried to suppuration. A very good counter-irritant, however, used over the dorsal point, is a little chloral hydrate spread upon adhesive plaster, say about the size of a silver dollar. A vinegar-pack over the abdomen at night, to be followed by a sponge-bath cf salt water the following morning, is also good treatment.

During convalescence, great care must be exercised that the patient be not allowed to gratify his appetite.

## CANCER OF THE STOMACH.

**Etiology.**—The stomach seems to furnish a soil more favorable for the development of malignant growths than any other organ, for it occurs more frequently in this structure than any other, according to Einhorn, and second in frequency according to Osler, who gives the uterus as ranking first.

The exciting or actual cause of cancer of the stomach, like that of cancer of any organ or part, is not known, though certain factors or conditions predispose to the lesion.

**Age.**—First in order is age, the disease rarely occurring during the first twenty-five years of life, while seventy-five per cent of the cases are found between the ages of forty-five and seventy years.

**Sex.**—Hospital statistics show a slight increase in favor of males, though, as Einhorn well remarks, this proves but little, as a predisposing factor for the percentage of males treated in hospitals is

larger than that of females.

*Race*.—The white race is far more liable to cancer than the colored, according to hospital reports.

*Heredity*.—This does not figure so extensively as one might expect, though it has some slight influence.

*Chronic gastritis and ulceration* are assigned as etiological factors; yet the percentage of cases where these conditions preceded the disease is quite small, and the gastritis found after death is most likely secondary.

The most frequent site of the disease, the pylorus, is explained by Brinton to be due to the greater amount of work or contraction of the muscular fibers at this point than in the rest of the structure. When the pylorus is involved, the upper portion of the duodenum usually shares in the destructive process.

**Pathology**.—Carcinoma has a predilection for the pylorus, according to Lebert, this portion being involved in fifty-one per cent of all cases, sixteen per cent affecting the lesser curvature, nine per cent affecting the cardiac orifice, while only four per cent involve the greater curvature.

The most common varieties are the encephaloid carcinoma, scirrhus carcinoma, adeno-carcinoma, and colloid carcinoma.

They always commence in the mucous layer, extending to the submucous, muscular, and serous coats.

The general appearance, character, and consistency depend, to a great extent, upon the variety, and may be quite limited or involve a large portion of the organ.

In all but the scirrhus, the surface presents an ulcerated condition with frequent "cauliflower" projections. The softer forms involve all the tissues of the stomach by infiltration, and are usually of a grayish-red color, owing to the amount of blood contained.

In the scirrhus form, a hard, indurated mass is formed, the resulting changes depending upon its site. Where the pylorus is involved, there is

apt to be dilatation of the organ and increase in size, while an involvement of the cardia gives rise to atrophy of the stomach and dilatation of the esophagus. In rare cases, the growth takes possession of the entire organ, almost obliterating the cavity.

In one post-mortem of this variety, I found its capacity reduced to about one tablespoonful or less.

In the colloid variety, there is more universal invasion as a rule, and it more frequently extends to neighboring parts. Metastasis to other organs is not infrequent, the lymphatic glands suffering most frequently, after which the liver is next in frequency.

The omentum, intestines, spleen, lungs, pleura, and, in fact, any organ may share in the destructive process.

Adhesions sometimes take place between the stomach and liver, or the pancreas, colon, or abdominal walls may suffer in the same way.

Microscopically, the tubular lymph spaces are seen to be filled with columnar epithelium. In some cases adenomatous growths will be found in some parts of the growth; hence the term, adeno-carcinoma.

In the scirrhus variety, there is massed between the groups of cells a large amount of firm fibrous connective tissue, which accounts for the hardness of this form of carcinoma.

In the softer varieties, there is usually more or less erosion of blood-vessels, accompanied by more or less hemorrhage.

Perforation of the stomach is one of the rare complications. Since the gastric tubules are early involved, and later destroyed, there is necessarily a diminished amount, and in some cases an entire absence of hydrochloric acid. Anemia is present in every form of carcinoma, and the patient has a characteristic appearance known as cancerous cachexia.

**Symptoms.**—These present a wide range, from that so slight that the disease is only recognized post-mortem, to those characteristic of the most typical type, between which are every grade. A better idea may be formed by dividing the symptoms into general and specific, or

functional.

*General Symptoms.*—The most constant symptom is the gradual and progressive loss of flesh and strength, though we meet with exceptional cases, where the patient retains his weight and strength to the end. There may be periods in this progressive emaciation, when, for a time, the general atrophy is stayed, and even an increase in weight gives encouragement to the patient, which only lasts, however, for a short period: thus a treatment that relieves the catarrhal condition, so constant in this disease, is a nutritious and easily digested diet. The same may be true of a strong mental impression, such as a favorable prognosis by a consulting physician, or the promise of a cure by Christian science, faith-healer, or magnetism.

The loss of strength is usually proportionate to the loss of flesh, though, where there is a temporary gain in flesh, there is not a proportionate gain in strength. With the general decline, there is, of course, a progressive anemia, the patient assuming a yellowish, cachectic appearance that is characteristic.

In about half the cases, fever rises in the advanced stages, though usually the temperature does not run very high. In exceptional cases the temperature is subnormal. Constipation is the rule, though a troublesome diarrhea is occasionally the exception. The stools, where there has been much hemorrhage from the stomach, are black and tarry. In the advanced stages of the disease, there is edema of the ankles, and not infrequently general anasarca.

*Functional Disturbances.*—Loss of appetite, with symptoms of dyspepsia, is common in all forms of cancer of the stomach, and, though occasionally a patient may retain his appetite to the end, it is quite exceptional.

With the anorexia comes nausea and vomiting; at first, at quite long intervals, but as the disease progresses, the vomiting becomes more frequent and persistent, especially when the orifices are the parts involved. If the cardiac orifice is the seat of the disease, the vomiting occurs at the time, or shortly after eating, while it is delayed for some hours if the pylorus is involved. The ejecta consists of food, mucus, various acids, yeast fungus, bacteria, and sarcinse, though not so often as in dilatation from stricture, and the whole mass is foul-smelling and

sour.

There is almost always an absence of hydrochloric acid, and though it may be present in rare cases, its absence is considered of great value as a diagnostic feature. To determine its presence have the patient eat a roll, with a glass of water or tea, without sugar or milk, and in about one hour draw the contents by means of the lavage tube.

Gunzburg's test for hydrochloric acid is perhaps as easily made as any, and is certainly as reliable. It is as follows: Take phloroglucin, 30 grains; vanillin, 15 grains; absolute alcohol, one ounce. To two or three drops of this reagent, add an equal number of the gastric nitrate, in a porcelain dish, and slowly evaporate to dryness over a flame; if hydrochloric acid is present, a rose-red tint will appear along the edges. So delicate is the test that it will reveal acid, if present, in the proportion of one to twenty thousand.

Hemorrhage occurs in a large per cent of the cases, but not in large quantities. As the oozing of blood takes place, it is acted upon by the changed gastric secretions, and is changed to a dark coffee-ground color. While the "coffee-ground" vomit is present in cancer of the stomach, we are not to forget that it is also present in gastric ulcer.

Pain is one of the common symptoms, and is present in nearly every case, though some cases have run their entire course without this dread condition. The pain is most frequently located in the epigastrium, though it may be between the scapulae underneath the shoulder-blade, or in the dorsal and lumbar region. It is of a burning, gnawing, twisting, or lancinating character, and occurs when food is taken, and, later in the disease, is nearly always present.

Physical examination is of the greatest importance, and reveals more positive knowledge than all other symptoms combined. Have the patient lie on his back, with the legs flexed, when a fullness will be noticed in the epigastrium, and, in the advanced stages, peristalsis can be readily seen, as may the pulsation of the abdominal aorta.

On deep inspiration, the tumor may be seen to descend an inch or two. Deep pressure reveals the presence of a hard, nodular mass in the epigastric region, if the growth involve the pylorus, or it may extend to the umbilical region, and sometimes is felt in the hypochondriac region.

When confined to the cardiac orifice, the growth can not be determined by palpation. When the patient is very much emaciated, the indurated mass may be grasped between the fingers.

The disease may be complicated by secondary growths, especially that of the liver, when the patient becomes very much jaundiced.

**Diagnosis.**—The location of the growth renders the diagnosis easy or difficult. Thus, when the pylorus is involved, the diagnosis is comparatively easy. The indurated mass can be readily felt through the abdominal walls; there is also dilatation due to the stricture. Add to these symptoms, pain, of a burning, gnawing character, various dyspeptic symptoms, frequent vomiting, especially the "coffee-ground" material, the presence of lactic acid after a test meal, and the continued absence of free hydrochloric acid, the lemon color of the skin, with great emaciation, render the diagnosis quite easy.

Where the growth is of the cardiac orifice, the tumor mass can not be felt by palpation, and should there be but slight loss of flesh and strength, as we sometimes observe, but little pain, and only occasional attacks of vomiting, the disease may not be recognized till near the end, and sometimes it takes a post-mortem to determine the true condition.

**Prognosis.**—This is unfavorable, few, if any, cases of genuine cancer recovering. The course of the disease is about two years, though some cases run their course in a few months.

**Treatment.**—It will be symptomatic, as different conditions arise, such as nausea and vomiting, hemorrhage, and pain. At the same time special attention should be paid to the diet. Such articles of food as are readily digested and assimilated in the intestines, should be used, and when obstruction of the pylorus occurs, predigested foods should be given, such as beef-peptonoids, and peptonized or pancreatinized milk-foods. When all nourishment is rejected, we will have to resort to rectal feeding. Much relief is afforded, in some cases, by lavage, while in others so much pain is occasioned by the process that we have to desist.

In the way of special remedies, hydrastin phosphate, echinacea, chelidonium, arsenicum, and like remedies, should be thoroughly tried. When the pain becomes too severe, we will have to resort to opiates, and render the sufferer as comfortable as possible.

## **HEMORRHAGE FROM THE STOMACH.**

**Synonyms.**—Hematemesis; Gastrorrhagia.

**Etiology.**—Hemorrhage from the stomach is a symptom, rather than a disease, and may arise from a variety of causes, some of which are outside of the organ entirely. The following are among the principal causes:

*Mechanical.*—Any injury either external or internal. Thus a penetrating wound, or a blow over the stomach, the unskillful use of a stomach-pump or tube, or the presence of hard, rough substances, which have been swallowed may give rise to hemorrhage. The taking of corrosive substances, such as acids or alkalies, acts in the same way, though perhaps they should be classed as chemical rather than mechanical.

Hemorrhage from the stomach sometimes occurs following a laparotomy, where the omentum has been injured.

*Local diseases*, such as cancer, peptic ulcer, or the ulceration accompanying chronic gastric catarrh; disease of the blood-vessels, such as fatty or amyloid changes of the gastric vessels, or varicose veins. And miliary aneurisms have produced fatal hemorrhages. Acute congestion, as intense acute gastritis and vicarious menstruation, have, in rare cases, been considered exciting causes.

*Passive Congestion.*—Obstruction of the portal circulation, whether from cirrhosis of the liver, thrombosis of the portal vein, or pressure from tumors or adhesions, as well as chronic diseases of the heart and lungs, may be exciting causes. Infectious diseases, by changing the character of the blood, as in typhoid, typhus, diphtheria, measles, smallpox, malaria, yellow fever, etc., may give rise to hemorrhage.

*External to the Stomach.*—The blood may be swallowed, as often occurs in epistaxis, or hemoptysis, or in injuries of the pharynx and esophagus, or a nursing child may take considerable blood from a cracked and bleeding nipple, following which vomiting occurs, suggesting hemorrhage from the stomach.

*Nervous Affections.*—Progressive paralysis of the insane, hysteria, epilepsy, and tubercular meningitis, may give rise to hemorrhage, though the reason is not clear.

Of all the conditions that give rise to hemorrhage, cancer, peptic ulcer, and cirrhosis of the liver form the greater part.

*Pathology.*—As will be seen by studying the etiology of this condition, the pathology will be varied. When due to ulceration or cancer, the lesion is readily observed, but if the result of cirrhosis of the liver, the condition of the stomach remains unchanged, as it does in the more obscure cases.

If a fatal hemorrhage follows a miliary aneurism, it may open into the stomach by so small a perforation—pinhole—as to be undiscovered, or the rupture of a submucous vein may leave so small an injury to the mucous membrane as to be readily overlooked.

**Symptoms.**—Those accompanying this condition are necessarily quite varied, the causes being many, and diverse. The hemorrhage may be so small that it is entirely digested, neither being vomited nor passed by stool. Again, the hemorrhage may be so copious as to result in sudden death before the blood is expelled from the stomach. Osier relates such a case, where the stomach contained between three and four pounds of blood after death.

When the hemorrhage persists for several days in succession, it is generally due to ulceration or cancer. Usually the blood is dark and clotted, being changed by the gastric secretions; where retained but for a short time, however, it is bright red. Where the blood is from the nose, and has been swallowed, it is usually dark, clotted, and offensive.

Frequently some blood passes into the intestines, and is passed at stool, a black, tarry mass. When the hemorrhage is copious, symptoms of anemia rapidly appear. If the hemorrhage be from the lungs, and has been retained some time, the blood will still be dark and clotted, but the oppressed respiration, and history of cough, will readily determine the source of the bleeding. When the hemorrhage is the result of the infectious fevers, and due to toxic conditions, the amount is usually small and dark in character.

**Diagnosis.**—Usually it is not very difficult to determine whence the blood comes. The previous history of the case will assist materially in determining this fact. We are not to forget that the vomitus may be stained by wine, the juice of berries, bile, and the use of certain drugs, notably iron and bismuth. Hysterical patients and malingers have been known to swallow animal blood, which can only be determined by carefully studying the condition of the patient.

In hemoptysis, the blood is generally bright red and frothy, and is expelled by paroxysms of coughing, or, if swallowed, the cough gives rise to vomiting. Physical examination of the chest usually detects respiratory trouble, and the expectorated material is usually tinged with blood for a few days after the hemorrhage. The salty taste of the blood, and the tickling sensation in the throat, usually attends hemoptysis and will assist in the diagnosis.

**Prognosis.**—Unless there be a rupture of an aneurism or a large vein in the walls of the stomach, the prognosis will be favorable, so far as life is concerned; even in cancer, the hemorrhage is rarely sufficient to cause death.

**Treatment.**—Absolute quiet should be enjoined, all unnecessary talking avoided, and the patient be required to assume the recumbent position. Small bits of ice may be given the patient, but fluids in considerable quantities should be withheld. If the hemorrhage be passive, and not alarming, carbo-vegetabilis, first trituration, in five-grain doses, may be given. Where the hemorrhage is active, gallic acid in five-grain doses will be preferable. Ergot hypodermically will be effective where it can not be retained by mouth. In some cases, small doses of ipecac act kindly, ten drops in half a glass of water, teaspoonful every thirty or sixty minutes.

Nourishment should be given in very small quantities, and in liquid form, for several days. The patient should be kept quiet and free from excitement. After the hemorrhage subsides, the after treatment will be symptomatic, treating the conditions as they arise.

## GASTRALGIA.

**Synonyms.**—Gastrodynia; Cardialgia.

**Definition.**—A sudden intense pain, situated in the epigastric region, without sufficient gastric lesions to account for it, and due, no doubt, to irritation of the filaments of the gastric nerve.

**Etiology.**—The causes giving rise to gastralgie are numerous. In all cases, however, the pain follows either the direct or reflex irritation of the gastric filaments of the pneumogastric nerve. In some it is a secondary reflex, as where the irritation is at a distant part, as the reproductive apparatus, or rectal or urethral irritation. In locomotor ataxia we have an example of pneumogastric irritation followed by attacks of gastric pain. It may be due to local causes, as hypersecretion, or hyperacidity of hydrochloric acid. It may also be attributed to that vague condition, neuralgia, that is made to answer for so many unknown causes, or that equally abused condition, rheumatism.

The distinct periodicity manifested in some cases would suggest malaria as a cause, as it yields to antiperiodic treatment. The excessive use of tobacco and whisky may also be mentioned while coffee and tea drinkers often suffer in the same way. Deep grief, mental strain, or sudden and severe shock to the nervous system, also give rise to it. It is more frequently seen in nervous, hysterical women, especially about the menopause. Men, however, are not exempt.

**Symptoms.**—Although due to a variety of causes, the symptoms are quite uniform and characteristic. The attack comes on suddenly, the paroxysms lasting from a few minutes to an hour or more, and consists of a burning, lancinating, or boring pain in the epigastric region, passing through to the back and around the ribs; or it may extend upward over the sternal region, passing to the arms.

The attack may be preceded by anorexia, nausea, and vomiting, though usually not, for it is almost always independent of the taking of food. Eating, however, sometimes relieves the suffering. Firm pressure usually affords some relief, though deep pressure may add to the suffering. The attack passing off, the patient may seem no worse for the seizure, unless the paroxysm be of long duration and excruciating in character, when he seems greatly exhausted. The attack frequently

terminates with eructations of gas, and rarely by vomiting.

**Diagnosis.**—The history of previous attacks, the absence of local disease, the sudden onset, and the paroxysm, render most cases easily diagnosed. The variety of causes that give rise to it, however, will render some cases more obscure, and require careful examination to reveal their character.

**Prognosis.**—This will depend entirely upon our ability in removing the cause. The disease of itself is not dangerous.

**Treatment.**—This will be twofold; first, to afford relief to the paroxysms of pain; second, to effect a cure by relieving the conditions which give rise to the lesion.

The first will be accomplished, where the suffering is agonizing, by a hypodermic injection of morphia, one-fourth grain, or chlorodyne, one teaspoonful to nine teaspoonsfuls of water; of this a teaspoonful may be given every fifteen minutes till three doses are given, then at longer intervals, depending, of course, upon the character of the pain. The old compound tincture of cajeput, in thirty-drop doses, is also very efficient. Where the pain extends to the abdomen, and there is tenderness on pressure, dioscorea will be the remedy.

Locally, a mustard-plaster over the seat of the pain answers a good purpose, though a few drops of chloroform on a cloth, and held over the affected part, will give much quicker relief; in fact, its effects are almost instantaneous.

Where there is gaseous distention, colocynth, ten drops; compound spirits of lavender, two drams; water, four ounces—a tea-spoonful every five, ten, or twenty minutes—will soon start the patient to belching, which gives relief to the exquisite pain.

For a permanent cure, the case will need careful study, determining in each case the cause of the attack. If due to malaria, as will be seen by the distinct periodicity, quinia, gelsemium, arsenicum, etc., will be the treatment. If from menstrual derangements, cimicifuga, viburnum, and pulsatilla will be the better remedies. If due to stenosis of the uterine cervix, dilatation will afford relief; or if endometritis be present, a thorough curetting will either cure the gastralgia or place the patient in

condition where medication will be beneficial. Of course, a lacerated cervix will need repairing, and a urethral stricture will have to be corrected, while hemorrhoids, pockets, fissures, papillae, ulcers, and fistulas will need to be removed.

If the patient is of a rheumatic diathesis, we would give such remedies as bryonia, rhus tox., cimicifuga, apocynum, phytolacca, and rhamnus californica, as symptoms calling for these various remedies would indicate. Thus muscular soreness would suggest cimicifuga; sharp lancinating pain, bryonia; sharp stroke of pulse, with irritability, rhus tox.; edema of eyelids or puffiness of feet, apocynum; while rhamnus californica will be useful where constipation is marked.

Some patients will need to be placed on a spare diet, while others will be compelled to abstain from tea and coffee. Tobacco and whisky will have to be given up, if the gastralgia be due to this cause. Galvanism is of marked benefit in some cases, the positive pole being placed over the epigastrium, while the negative pole is over the lumbar spine.

## NEUROSES OF THE STOMACH.

**Synonyms.**—Nervous Dyspepsia; Gastric Neurasthenia.

**Definition.**—A functional disturbance of the stomach, in which there is no organic lesion sufficient to account for the gastric derangement. There is more or less distress after eating, which may, or may not, affect digestion.

**Etiology.**—There are quite a variety of causes giving rise to this condition. It occurs more frequently in the more "well-to-do" classes, and may follow sexual or social excesses. Great mental excitement, worry over business or family affairs, grief not easily assuaged, and prolonged melancholy, should be considered as causal factors.

Many times it is reflex, and the cause must be sought in the irritation of the sympathetic at some point distant from the stomach. Thus ovarian irritation, laceration of the cervix uteri, and endometritis, or hemorrhoids, fissures, rectal pockets, fistulae, and papillae. Sometimes the urethra is the seat of the disturbance, and a stricture or a caruncle is teasing the terminal fibers. Hysterical and neurasthenic patients are

frequently troubled with nervous dyspepsia.

There may be hypersecretion of the gastric juice, or undue acidity, and at times we find a defect in the quantity, any one of which will give rise to the disorder. Underlying all of the causes, however, is undoubtedly a nervous temperament.

**Pathology.**—After repeated examinations of the stomach, there will be failure to find structural lesions, and many times the pathological wrongs will be found at a distant part, as the uterus, rectum, or urethra.

**Symptoms.**—The symptoms of nervous dyspepsia are legion, and a nervous subject complains of nearly every symptom to which flesh is heir. We see patients that are very much emaciated, while others are full-fleshed, and appear the picture of health, and between these, there is every grade of diseased condition.

The most common symptoms are, a sense of fullness and weight, accompanied by pain of a burning, gnawing character, shortly after taking food. At times there is great distention of the stomach, and the patient is compelled to hurry to her room and loosen dress, corset, and everything which presses upon the stomach; finally, loud and frequent eructations of gas afford relief, leaving the stomach, however, quite painful on pressure. Or the gas may pass into the bowels, followed by borborygmus, a condition embarrassing, though not painful.

Where there is hyperacidity and hypersecretion, the patient experiences a burning sensation in from one to three hours after a meal, attended by eructations of sour fluid, and finally vomiting ensues, giving entire relief to all distress. Spasm of the cardiac orifice is attended by severe pain, at times simulating angina, and frightening both patient and friends, who fear a fatal termination to the attack.

Constipation is usually present, with more or less flatulent distention of the intestines, and frequently there is abdominal pain. Headache, malaise, sleeplessness, and melancholy are commonly present.

**Diagnosis.**—In the diagnosis of this disease many difficulties present themselves, and many times the symptoms are so similar to those of organic disease of the stomach that great care is required to differentiate between them. If we bear in mind the etiology of this

condition, it will aid materially in recognizing the lesion.

The nervous temperament, the history of the case, the normal time in digesting the food, notwithstanding the pain and discomfort, and, finally, examining the contents of the stomach after a test meal, are sufficient to make the case clear. If the local symptoms are insufficient for a diagnosis, do not fail to examine the rectum and genito-urinary apparatus.

**Prognosis.**—In a large percentage of cases a cure should be effected. It is important to impress a nervous patient that a cure will ensue, if complete instructions are followed; then persevere till the cause of the disease is located, and a cure will soon follow.

**Treatment.**—A very careful examination should be made to determine the producing or continuing cause. Is it due to errors in digestion, to mental worry or overwork, to sexual excesses, to late hours and dissipation in general; if so, they must be corrected. Above all, do not fail to determine if the terminal fibers of the sympathetic are being teased by wrongs of the genito-urinary system. By correcting these wrongs as they appear, a cure is soon effected.

One of the worst cases of nervous dyspepsia it has ever been my lot to treat, was due to endometritis and rectal troubles. She had suffered for two years, and had been treated by a number of reputable physicians, who, strange to say, had overlooked the reproductive apparatus. She had been placed upon a rigid diet, had heroic medication, and also infinitesimal doses, but all to no purpose.

An examination revealed a uterine leucorrhea, due to endometritis and a bad rectum. A thorough curetting, and some rectal work, gave the patient the first genuine relief she had experienced, and the case made an uneventful recovery.

Some patients need to be restricted in their diet, while others may be allowed a generous but nutritious bill of fare. As a rule, fried and greasy articles should be prohibited; also sweets and starchy foods. Tea, coffee, milk, and water should be restricted, the patient living on a dry diet.

To encourage digestion, and add tone to the stomach, give nux and

hydrastin. To overcome constipation, have the patient massage the abdomen before rising in the morning, drink a glass of cold water, and go to stool at a regular hour. To encourage the bowels, a half dram of cascara evacuant may be given for a few days, till the bowels assume their normal condition. Spasm of the cardia or pylorus will be benefited by the following prescription :

Colocynth	8 drops
Compound Spirits of Lavender.	2 drams.
Water	4 ounces. M.

Sig. Teaspoonful every ten, twenty, thirty, or sixty minutes.

For the burning, bismuth subnitrate in mint-water answers an excellent purpose.

Some very stubborn cases, where melancholy is a prominent symptom, will improve rapidly by a change of air, scenery, and surroundings, thus getting the patient away from self and interested in what is going on in the world. A sea-voyage, a mountain journey, or a visit to the country, will thus accomplish what drugs fail to do.

## HYPERSECRETION AND HYPERACIDITY.

**Definition.**—Increased activity of the secreting apparatus of the stomach, whereby an undue amount of hydrochloric acid, more than is required for the purpose of digestion, is secreted.

**Etiology.**—Hyperacidity, or increased secretion, usually occurs from one to three hours after taking food, and may be due to some of the causes already mentioned under nervous dyspepsia; namely, grief, melancholy, prolonged and severe mental exertion, financial or family troubles, or to reflex disturbances, occasioned by irritation at some of the orifices of the body. Dissipation, late suppers, excessive use of tobacco, alcohol, and tea and coffee, may also figure as causative factors.

**Symptoms.**—One or two hours after taking food the patient experiences a burning, scalding, or gnawing sensation in the stomach, accompanied by eructations of a sour, acrid fluid, and, as the patient expresses it, it seems to scald the throat and put the teeth on edge. If

large quantities of fluid have been taken with the food, vomiting may ensue.

The hypersecretion of acid delays digestion, if much starchy food has been taken; in which case the pain is of longer duration. Albuminoids, on the other hand, are rapidly digested. With this condition is usually associated more or less headache, malaise, and dizziness or vertigo. There is frequently tenderness on pressure over the epigastrium.

**Diagnosis.**—The symptoms already given are usually sufficient for a diagnosis, though a positive knowledge is only determined by a repeated analysis of the gastric contents. This is made, one hour after partaking of a test breakfast, consisting of a roll and cup of tea, without milk or sugar. Free hydrochloric acid is greatly increased, if hyperacidity is present.

**Prognosis.**—This is always favorable in recent cases, though, in old chronic sufferers, the disease is often quite stubborn.

**Treatment.**—The diet should deserve first attention, and should consist principally of albuminous foods. Lean meats, eggs, milk, and whole-wheat bread should be the principal bill of fare. Acid fruits should be restricted, and also spirits in all forms, as they tend to excite the secreting glands. With the exception of milk, the patient does better on a dry diet.

Where the hyperacidity is excessive, a daily washing out of the stomach with a weak solution of sodium bicarbonate or boracic acid will prove benercial. Full doses of sodium bicarbonate, one or two hours after each meal, will prove useful in neutralizing the excessive acidity.

Bismuth subnitrate in mint-water is also beneficial. Phosphate of hydrastin, 5 grains; nux vomica, 2 drops; water four ounces; a teaspoonful every three hours, will improve the tone of the stomach, and thus aid in the cure. Rhus tox., where the patient is very nervous and inclined to vomit, is a good remedy. Berberis aquifolium in five-drop doses, every three hours, will also give good results.

## **NERVOUS VOMITING.**

This condition frequently occurs without any anatomical lesion of the stomach to account for it. It is reflex in its origin, and most frequently occurs in hysterical women, although there are notable exceptions. Thus seasickness, attended by vomiting, is experienced by the great majority of both men and women who take an ocean voyage. Sick headache is a very common example, while the vomiting of pregnancy is reflex in character.

Organic lesion of other organs is frequently attended by vomiting, as is seen in Bright's disease, organic diseases of the liver, spleen, or of the nervous system. Gall-stones and renal calculi may be attended by vomiting, while irritation of the rectum, uterus, urethra, or vagina may result in this unpleasant condition. Neurasthenic and hysterical patients are notable examples of this condition.

The symptoms of this form of vomiting differ somewhat from those that usually occur in lesions of the stomach.

The food is usually ejected without much effort, and nausea is not often present. In some cases, only certain articles of food are vomited, while in others the diet seems to make but little difference. In hysterical patients, there is usually but slight disturbance of nutrition, but where organic diseases of other parts are the cause, unless corrected, death may result.

Treatment consists in determining the exciting cause, and removing it where possible, when the vomiting ceases.

## **RUMINATION.**

Rumination or merycism is a peculiar neurosis, in which the patient regurgitates and masticates, or "chews his cud" like ruminants. It occurs among hysterical patients, epileptics, and in the feeble-minded. While it rarely affects the patient's health, it is a disgusting habit, and where the patient is mentally capable of being reasoned with, he should be impressed with the disgust with which society views the habit. The treatment, therefore, will be chiefly mental.

## **PERISTALTIC UNREST.**

Peristaltic unrest was first described by Kussmal, and consists of increased peristalsis, which is attended by a gurgling sound, and often visible, as waves passing from left to right. The general health is not impaired; embarrassment to the victim is the only result. The treatment, as in most neuroses, consists in finding out and removing the exciting cause. Electricity sometimes proves beneficial.

## **NERVOUS ERUCTATIONS.**

This form of gastric neurosis is attended by attacks of noisy eructations, independent of fermentative changes, in the stomach. The attack may last for several hours or a few days, and occurs in hysterical patients. The expelled gas is usually atmospheric air, and is odorless and tasteless. The patient may acquire the habit, and become so expert as to avoid detection. Sometimes it is due to spasm of the pharynx, which causes involuntary swelling. The treatment is similar to other neuroses of the stomach, and consists in overcoming the exciting cause.