SYLLABUS OF LECTURES.

INFLAMMATION.

DEFINITION.

LIABILITY OF TISSUES TO UNDERGO INFLAMMATION.—Some more liable than others. Some never attacked. Certain of the lower orders of animals are supposed to be exempt from this action. Not as yet positively ascertained.


SYMPTOMS.—1. Local. 2. Sympathetic, general, or constitutional.
(1.) Redness, heat, swelling, pain, throbbing, and alteration or suspension of the natural secretions of the part. Although these symptoms are usually present, inflammation may exist without their development. Cite cases. (2.) Constitutional symptoms.

THEORIES OF INFLAMMATION.

EFFECTS ON THE BLOOD.


CAUSES OF INFLAMMATION—TWO CLASSES. 1. Constitutional. 2. Local. First Head, or Constitutional.—1. Plethora. 2. Diathesis. 3. Fever. 4. Disordered state of function. 5. Suppression of natural discharges. 7. Atmospheric vicissitudes. Second Head, or Local.—1. Those which produce palpable injury to organization—as mechanical injuries of every kind—mineral irritants—heat, friction, extreme cold, &c. 2. Those which operate through the sentient extremities of the nerves—as concussion, pressure, constriction, irritating substances, as mustard, cantharides, &c. 3. Fluids which produce a peculiar impression and give rise to a specific action or inflammation—as decomposed animal matter, pus or serum from specific diseases. The most familiar examples of the operation of this class are, dissecting wounds, pustule maligne, and glanders. 4. Those which suddenly change the natural feeling of the parts. For example, drawing off the water in dropsy will cause inflammation of the serous cavity in which it has been collected. Peritonitis frequently comes on after the delivery; cystitis after the operation for stone, &c.

DIAGNOSIS.

PROGNOSIS.
TREATMENT.—Numerous indications are presented, most of which require to be fulfilled in nearly every case. They are modified of course by the peculiarities of the attack, the age, and the strength of the patient, &c.

1. We must endeavour to remove the cause. An exception to this rule is occasionally met with in surgery, when bullets, &c., lodge deeply.

2. We must diminish the action of the heart by nauseants, digitalis, general and local abstraction of blood, by venesection, arteriotomy, scarification, cups, and leeches.

3. We must reduce the sensibility of the part, and if possible cause constriction of its vessels, by cold—ice, irrigation, immersion.

4. When cold fails to reduce sensibility, apply steam, fomentations, poultries, warm water dressings, immersion in warm water, &c.

5. We must restore the secretions, if possible, by diaphoretics, mercury, iodine, warm baths, &c.

6. We must remove the original disease by counter-irritation, especially when it becomes chronic. For this we use irritating lotions, blisters, simples, tart. antimon., croton oil, issues, scabions, and moxas.

7. When the vessels are turgid, we must cause their contraction by astringent lotions, aided by scarifications, leeches, &c.

8. We must also prevent the efflux of blood into the part by position, friction, and rest. Pressure, recommended by some, is generally a painful remedy, except in chronic cases.

9. We must always bear in mind the influence of the mind upon the body and endeavour to cheer up our patient by every possible means.

PRODUCTS OF INFAMMATION.

I. SEROUS EFFUSION.

1. Nature of this fluid.

2. Kind of inflammation usually producing it.

3. Time requisite for its separation.

4. Local phenomena.

5. Effects upon parts containing it, and those in their vicinity.

6. Diagnosis.—May be confounded with dropsy arising from other causes.

7. Diseases produced by serous effusion—Hydrocephalus, hydrophthalmia, hydrocele of the neck, hydrothorax, hydropericardium, ascites, ovarian dropsy, edema, anasarca, skin bind of children, hydrocele of the tunica vaginalis testis, hydrarthrosis.

8. Operations required to relieve these affections.

   (1.) Paracentesis capitis, in hydrocephalus.

   (2.) Paracentesis oculi, in hydrophthalmia.

   (3.) Tracheotomy, in edema of the glottis.

   (4.) Paracentesis coli, in hydrocele of the neck.

   (5.) Paracentesis thoracis, in hydrothorax and hydropericardium.

   (6.) Paracentesis abdominis, in ascites and ovarian dropsy.

   (7.) Paracentesis scroti, in hydrocele of the tunica vaginalis testis.

   (8.) Paracentesis articuli, in hydrarthrosis.

   (9.) Puncture of the skin, in edema and anasarca.

II. EFFUSION OF COAGULABLE LYMPH.

1. Nature of this fluid.

2. Kind of inflammation producing its separation.—Must not be too high or we have pus; nor must it be of too low a grade. There is evidently a secreting point.
The best preparation of lotion is one containing Spirit, a Tincture, and Vinegar. Brandi, and 83 by Agua water.

3. Very often the application is irritative, and perhaps the most cases of these applications are preferable for they do not stimulate the blood, nor do they pain the patient. Reactions like these and are more directly sedative than either warm or cold applications. Delay the skin both pain and prevent sedation. In every case the patient's feelings should be one and the applications be warmer, cold, according to his choice.

4. Stimulants and strong solutions are of much use in inflammation of mucous membranes.

5. Counter-irritants.

PLASTIC SURGERY.

Indications for the employment of plate surgery.

Grafts of nourishment in cases of loss of the operation.

Diseases of the nose due to葵al operations.

Contraindications.

Adaptation of a lining layer of mucous to the wounded part. The necessity.
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3. Time required for its formation.
4. Tissues in which it is most liable to occur.
5. Effects upon the part into or upon which it is thrown.
6. Stages through which the lymph passes in its organization.
7. Diseases resulting from this effusion—Hepatization of the lung; corneal speck; various tumours; the hardness about boils and erysipelas; elephantiasis; closure of the trachea in croup; strictures; adhesions; and strangulations.
8. Operations required to relieve the effects.—Exirpation of various tumours; amputation of a limb; tracheotomy or bronchotomy in croup; the different operations for strictures: separation of adhesions as in atria vaginæ; operation for hernia.

III. ADHESION.

Definition.—The accidental or abnormal union of parts, either separated naturally or by some chance, from each other.

Nature of this process.—This product of inflammation, or according to some, of irritation, is nothing more than the effusion of coagulable lymph under peculiar circumstances. When, for instance, a simple cut or wound unites, without suppuration, the bond of union is either pure coagulable lymph or the fibrine of the blood; and it is said to heal by adhesion, or by "adhesive inflammation," or the "first intention of Hunter." Professor M'Cartney calls this process "mediate union by lymph," and denies the existence of inflammation in its accomplishment.

Theories in relation to this process.—Hunter's; Thomson's; John Bell's; Maunoir's; Delpech's; Serre's; Dubamelle's; those of the Physiological school, &c.

Changes which take place during the organization of the bond of union.—
1. coagulation; 2. change in color; 3. formation of vessels; 4. increase of firmness; 5. conversion into fibrous or cellular tissue.

Process of vascularization.—Theories of Hunter, Dubamelle, Clanny, Sir E. Home, Gendrin, Laennec, &c.

Appearance of cicatrix.

Utility of this process.—Exhibited in the adhesion of wounds. The attachment of the lungs to the ribs in pleurisy. The cure of hydroceles, cysts, and fistulae. The cure of wounds about the abdomen. The arrestation of hemorrhages. The restoration of parts entirely separated from the body. And the success of plastic surgery.

PLASTIC SURGERY.

Definition.

Synonyms.—Autoplastic surgery; anaplastic surgery; animal grafting; chirurgia curtorum per insitionem; morioplasty; heteroplasty; taliscomian operation, &c.

History.

Indications for the employment of plastic surgery.

Circumstances which favour the success of the operation.

Circumstances which forbid its employment.

Results of these operations.—1. Favourable. 2. Unfavourable.

Treatment after a plastic operation.

Classification.—Several general groups. 1. Operation intended to restore parts either entirely or partially separated from their original connection.

2. Operations intended to restore lost organs by a process similar to vege-
table grafting, and hence called the "operation by transplantation." The new flap is here entirely detached from its original position.

3. The operation by "transposition;" the flap is here left attached by a pedicle, and is taken from parts either in the vicinity or at some distance from the seat of disease.

Under each of these general heads are ranged the different special methods of performing the different plastic operations. Under the first, we have the operation after cancer, the removal of cicatrices, the loss of fingers, &c. Under the second, the operations by "migration of the flap," "detachment and migration," &c. Under the third, the operations by glissement du lambeau, or sliding the flap," "Roullement, or rolling the flap," "inversion of the flap," &c. &c.

PLASTIC OPERATIONS.

Each of these takes its name from the part to be restored.

1. Cranioplasty, or restoration of the soft parts and bones of the head.
2. Otoplasty, or restoration of the ear.
3. Rhinoplasty, or restoration of the nose.
4. Blepheroptolasty, or restoration of the lids.
5. Keratoplasty, or restoration of the cornea.
6. Cheiloptolasty, or restoration of the lips.
7. Genioplasty, or restoration of the cheeks.
8. Staphyroplasty, or closure of the soft palate.
9. Palaplasty, or closure of the palatine vault.
10. Bronchoplasty, or closure of the larynx or trachea.
11. Urethroplasty, or restoration of the urethra.
12. Oscheoplasty, or restoration of the scrotum.
13. Cystoplasty, or restoration of the bladder.
14. Enteroplasty, or restoration of a bowel.
15. Elytroplasty, or restoration of the vagina in vesico-vaginal, or recto-vaginal fistula.
16. Plastic operations for the restoration of parts about the thorax and abdomen.
17. Plastic operations after the removal of cicatrices.
18. Plastic operation for the cure of hernia.

IV. HARDENING.

Definition.

Causes.—Besides inflammation, it may result from natural causes, or it may be produced by simple congestion; undue accumulation in the cavities of organs; hypertrophy; loss of the fluids of an organ; interstitial deposits, and the presence of unorganized masses, as tubercles, &c.,

Manner in which inflammation produces hardening.

Tissues liable.

Effects on organs.

Treatment.

V. SOFTENING, OR RAMOLLISSEMENT.

Definition.

Causes.—Usually from inflammation. May result from defective nutrition; disease of arteries; want of proper food; altered qualities of the blood, &c.; the solvent qualities of the gastric juice.

Tissues liable to it.

Effects on organs.

Treatment.
VI. ATROPHY.

**Definition.**

Causes.—Besides inflammation, it may result from a law of nature, as in the wasting of the thymus gland; an arrest of the nutritive process before birth; from a state of inaction; loss of nervous power; pressure; diseases of various kinds.

Division.—Partial and general.

**Effect on bulk of organs.**—May exist without any positive loss of size, as in eccentric atrophy of the heart, &c.

**Effect on function of organs.**

**Tissues most liable to be attacked.**

Treatment.

VII. HYPERTROPHY.

**Definition.**

Causes.—More active nutrition in a part, dependent often on inflammation; but also the result of other causes—as exercise; vicarious function; excessive or unusual exertion in the involuntary muscles. It may also be congenital. Certain climates and trades also predispose to its occurrence. Castration and excision of the ovaries will cause hypertrophy.

Division.—Partial or general.

**Effect on bulk of organs.**—May exist without positive enlargement. Cite examples of this.

**Effect on function of organs.**

**Tissues most liable.**

Treatment.

VIII. CHEMOSIS.

**Definition.**

Causes.—Acute inflammation.

Symptoms.

**Tissues most liable.**

Treatment.

IX. SUPPURATION.

**Definition.**

Causes.—Invariably the result of inflammation. This is doubted by some, but without foundation. The inflammation must not run too high, for here as in the secretions, there is a "secrating point," above or below which pus will not be formed.

**Situations in which it is formed.**—1. Upon exposed inflamed surfaces, as the skin, mucous membrane, &c.
2. Upon unexposed surfaces, as serous membranes, cellular membrane, &c.; here called "purulent effusion."
3. On granulations.
4. In a sac, to which we apply the term abscess.
5. It may be diffused through the whole substance of an organ.

**Time required for its occurrence.**—Varies from thirty-five minutes up to several hours or weeks.

**Symptoms.**—1. Local. 2. Constitutional.

**Theories relative to the formation of pus.**—Numerous. Those of Hippocrates and Galen, Boerhaave, Hoffman, Stuart, Hunter, Simpson, Morgan, Gendrin, Carswell, Gulliver, Donne, Andral, and Gerber, explained.

**Usual change in tissue before pus is formed.**—Puogenic membrane of Hunter. New gland of Simpson; not always present; usually exists in abscess.
pus.—Two kinds healthy, or laudable, and unhealthy.

1. Physical properties of healthy pus.—Colour, smell, consistence, taste, specific gravity.

Microscopic examination of.—Two parts, solid and fluid. Solid composed of pus globules, and pus molecules. Difference between these and globules of blood.

Chemical analysis of.
Tendency to putrefaction.


Character of pus modified by cause and surface secreting it.

Action of pus on the surfaces secreting it.

Diagnosis.—May be confounded with mucus. The various tests examined. Also with tuberculous matter.

Prognosis.—Depends on extent and location of deposit, &c.

Treatment.—General principles laid down. Modified by circumstances.

1. Local remedies. 2. Constitutional.

abscess.

Definition. A collection of pus is an accidental or preternatural cavity. When pus is collected in a natural cavity it is called an "effusion."

Causes.—Always the result of inflammation; theory of Dehaen no longer maintained.

Classification.—1. Old arrangement into "acute or hot," and "cold or chronic," no longer retained.

2. Abscess of debility, or asthenic abscess.

3. Purulent deposit, or abscess by congestion.


Some writers make a much greater variety, based upon cause tissue or organ involved, &c.

Changes which take place in the tissues from the period of inflammation to that of suppuration.

Changes that take place after this.—Divided by some into three stages: 1st, deposit of pus in the cells of the part; 2d, maturity or the collection of this fluid into one cavity; 3d, resolution either by absorption of the pus, or its evacuation by an operation.

Structure of an abscess.—Depends on its character. The puogenic membrane is usually, though not always, present.

Use or functions of the cysts.

Mode of growth.

Direction of growth.

Progress of growth.—Slow or rapid.

Termination.—In resolution, ulceration, granulation and adhesion; or it may become encysted.

Effects of air when admitted into the cavity of an abscess.

Symptoms.—1. Local. 2. Constitutional.

Diagnosis.

Prognosis.

Effect on the constitution produced by suppression of the secretion.

Treatment.—1. Local remedies. 2. Constitutional.

asthenic abscess.

Peculiarities of this form of abscess explained.
Purulent Deposite, Etc.

Definition. — An abscess which differs from the ordinary forms in the circumstances of its pus not being originally formed in the parts in which it is found. It is hence sometimes called symptomatic abscess. Cite examples. Why called abscess by congestion?

Parts most liable to this form of abscess.

Pathology.

Character of the pus.

Diagnosis. — Often obscure.

Prognosis. — Usually unfavorable.

Treatment. — Depends somewhat on circumstances. Governed by general principles. To illustrate more clearly the proper treatment speak of that form called Psoas abscess.

Metastatic Abscess.

Definition. — An abscess that suddenly forms without any previous indication of inflammatory action, and in parts distant from the point in which suppuration has originally existed. Hence it was supposed by some that the pus actually changed its location, or that metastasis took place.

Location. — Usually in the viscera. Sometimes they are met with in the cellular tissue, muscles, joints, etc. They generally select the largest viscera and those most highly organized.

Number. — Varies from one to several.

Exciting causes. — Wounds, great surgical operations, injuries of the head, trivial wounds, in bad constitutions, delivery.

Proximate cause. — A number of theories on this point; supposed by some to be tubercles previously existing in the organs attacked, and softened by the general irritation of the system; by others, direct absorption of pus by the veins or lymphatics, is considered the true cause; others again refer it to sympathy; but the doctrine now generally received, is that which considers the true cause to reside in inflammation of the venous capillary vessels or larger veins.

Condition of the organ in which or around which the abscess forms.

Symptoms. — 1. Constitutional. 2. Local. Both modified by the location of the abscess.

Diagnosis. — Obsolete.

Prognosis. — Generally unfavorable.

Treatment. — 1. General remedies. 2. Local remedies. Both modified by circumstances.

Fistula, or Sinus.

Definition.

Causes.

Symptoms.

Pathology.

Diagnosis.

Prognosis.

Treatment.

Hectic Fever.

Definition.


Symptoms. — May be divided into three groups: 1. Slight febrile action, with exacerbations in the evening. 2. The febrile action is continued. 3. Prostration indicated by perspiration, diarrhoea, marasmus, &c.
Diagnosis.

Prognosis.

Treatment.

X. ULCERATION.

Definition. — Differently defined by different authors. I adopt that of Phillips: "Ulceration is that product of inflammation in which there is a loss of some part of the body, which from some peculiarity, local, or general of the constitution, manifests no tendency to heal, so long as that particular condition exists."

Distinction between wounds and ulcers.


Liability of tissues to ulceration. — The most highly organized, are most frequently attacked. Some tissues are exempt. Natural tendency of ulceration. — When left to itself it generally extends. Sometimes it heals spontaneously.

Effects of ulceration upon the part attacked, or upon the constitution.

Tissue forming the surface of an ulcer. — Called a granulating surface.

GRANULATION.

Nature of granulations. — 1, basis or element of which they are formed; 2, size; 3, color; 4, shape; 5, temperature; 6, organization. Gueterboch's statement as to what enters into the composition of a granulating surface.

Dependence of granulation upon suppuration. — Pus is supposed by some to be essential to the formation of granulations; by others this is doubted. It is not found, for example, in ulcers of the cornea or cartilage.

CICATRIZATION.

Cicatrization, or the healing of granulating surfaces.

Definition of a cicatrix. — Tissue by which a wound or ulcer is united. By Delpech it is called the "inodular tissue."

Difference between cicatrix and the tissue it unites.

Modification. — This process is modified by a variety of circumstances; for example—

1. When it occurs under a scab or crust of blood, the cicatrix forms over the whole surface, and is smooth and pliant.
2. When it takes place on a smooth, moist surface, as when a wound heals by the "modelling process of M'Cartney," the surface is smooth, and the cicatrix a mere line.
3. When it forms on granulations, the process usually commences at the edges of the ulcer, and the surface is often irregular and prominent.
4. It is also much modified by the cause of ulceration. Those, for example, produced by burns or scalds, are more irregular, have more extensive adhesions, and cause more serious deformity, than when they result from any other cause. Specific ulcers usually produce a characteristic cicatrix.
5. The character of a cicatrix is also modified by the tissue in which it occurs.

Structure of cicatrix.

Profundity or depth.

Force with which it contracts during the process of formation.
Circumstances which prevent or retard cicatrization.
Nature of the tissue of the cicatrix.

Power of resisting diseases and disease peculiar to the cicatrix.—Refer to Sir C. Hawkins for an excellent paper on Cancer of cicatrices.

Form of cicatrices. Dupuytren's classification.

Prognosis as to the result of operations.—Depends on a variety of circumstances. We must take into consideration—1st, the depth of the cicatrix; 2d, its age; 3d, its location; 4th, its extent; 5th, its peculiar character; 6th, its vascularity; 7th, the condition of the parts in its vicinity; 8th, the health of the patient.

Treatment of cicatrices.—May be divided into—1. That proper during the formation of the cicatrix. 2d. That required after its complete formation.

Indications under first head.—1. Remove all agents calculated to prevent cicatrization. 2. Endeavour, as a general rule, to make the cicatrix as small as possible, unless by so doing we interfere with some function. 3. Prevent the cicatrix being too small or too short, as in wounds about the fingers, face, &c. 4. By caustics or the knife prevent fungous granulations.

Indications under the second head.—1. Endeavour to relax the cicatrix by frictions, baths, extension, &c.

2. When these means fail, perform an operation. The character of the operation is modified by circumstances. To render this part of the subject more simple, the operation required in each form of cicatrix may be briefly referred to.

(1.) In the narrow cicatrix, without extensive adhesions, divide the cicatrix, extend it and maintain it extended for some time.

(2.) In the prominent cicatrix, slice it off, or keep it down with caustics, or slough it out.

(3.) In the cicatrix with extensive adhesions, cut out the cicatrix and fill up the space with sound skin. The practice of Hildanus, Earle, &c., in these cases explained.

(4.) In contraction of natural openings. The operation of Dieffenbach, &c., explained.

(5.) When an organ is entirely destroyed, the cicatrix must be removed, and a plastic operation performed.

Ulcers.

Definition.—Solution of continuity accompanied by the secretion of pus or other fluid.—(Liston and S. Cooper.) A granulating surface secreting pus —(A. Cooper.) This definition is objectionable, inasmuch as we may have secretion of pus without granulations. The definition of Liston and S. Cooper is better.

Difference between ulceration and an ulcer.

Classification.—Difficult. The causes, the symptoms, and the parts attacked, have each been taken as the basis of a classification. That of Liston I prefer as being most simple. He makes six varieties of ulcer, and in this agrees with Sir E. Home. Their classifications are almost identical.

1. The simple, healthy, or healing ulcer.

2. The weak or sluggish ulcer.

3. The indolent ulcer.

4. The irritable ulcer.

5. The specific ulcer.

6. The varicose ulcer.
SIMPLE ULCER.

Characteristics.

Causes.

Class of persons usually affected.

Parts of the body usually attacked.

Prognosis.

Treatment.

WEAK ULCER.

Characteristics.

Causes.

Class of persons usually affected.

Parts of the body usually attacked.

Prognosis.

Treatment.

INDOLENT ULCER.

Characteristics.

Causes.

Class of persons usually affected.

Parts of the body usually attacked.

Prognosis.

Treatment.

IRRITABLE ULCER.

Characteristics.

Causes.

Class of persons usually affected.

Parts of the body usually attacked.

Prognosis.

Treatment.

SPECIFIC ULCER.

Characteristics.—Depend on cause.

Causes.—Cancer, scrofula, fungus, scrobutus, syphilis, &c.

The peculiarities of these ulcers will be pointed out under the heads of their respective causes.

VARILOSE ULCER.

Characteristics.

Causes.

Class of persons usually affected.

Parts of the body usually attacked.

Prognosis.

Treatment.

XI. MORTIFICATION, OR SPHACELUS.

Definition.

Difference between gangrene and sphacelus.

Classification.—Several terms are employed to designate the different groups of phenomena which characterise mortification under different circumstances. We have, for instance—

1. Hot, acute, traumatic, or inflammatory mortification.
2. Cold, or that which takes place without previous inflammation.
3. Humid, or that accompanied by the effusion of fluids.
4. Dry, or that in which little or no secretion or effusion occurs. From the fact of its being chiefly confined to old persons it is often called "Gangrene Senilis."
5. Chronic, or that form described by Pott, as attacking chiefly the extremities.
6. Hospital gangrene.
7. Epidemic gangrene.
8. Specific gangrene—example. Malignant pustule.

Causes—Various. It must be recollected that mortification may result from many causes besides inflammation. Nearly all of these may be ranged under four or five heads.

1. It may be occasioned by any cause capable of producing a cessation, or partial cessation, or even a feebleness of the circulation in a part—as inflammation, mechanical obstacles, debility, ossification of arteries, &c.
2. By any cause which occasions violent mechanical or chemical changes in the part, as contusions, lacerations, heat, cold, mineral acids, and caustic alkalies.
3. By any which, in consequence of their poisoning properties, will produce a deleterious influence upon the system at large, as the virus of rabid animals, and poisonous reptiles, and animal fluids the result of decomposition.
4. By any that will impair the powers of nutrition or furnish bad chyle. High living, or bad food, certain articles of food, (as ergot,) bad air, bad lodging, and certain trades by obliging individuals to deny themselves proper food, air, and exercise, will all predispose to mortification, and may produce it without local injury.
5. By any that will cause intense passions or emotions of the mind (See Langenbeck.)

Manner in which these various causes operate upon the parts attacked.

Liability of tissues to mortification—some more liable than others.

Time in which these various causes operate upon the parts attacked.

Causes—Depend on cause.

State what these are. Condition of parts after the separation of the slough, and their manner of healing.

Prognosis.

The effect produced upon the system by the occurrence of mortification depends on the part involved. If the organ destroyed is one of importance, or vital, the death of the animal is either instantaneous or speedy. If, on the other hand, the part affected is not essential to life, sloughing takes place and the individual recovers. Sometimes, however, this process is so tedious, and the parts destroyed so extensive, that death ensues in consequence of debility and hectic fever. It is also modified by the kind of mortification present.

Diagnosis.—May be confounded with other discolorations of the skin.
Positive signs of mortification must always be present before we pronounce upon the nature of the case. We must also be careful to ascertain the depth of the slough; for the skin alone may be affected, when there is every appearance of the whole limb being involved.

Treatment.—To prove of any advantage, so far as the affected part is concerned, our remedies must be applied in the stages of gangrene. They are also modified by the varieties of gangrene, the general condition of the patient, the character of the cause, &c. We may, however, lay down certain general indications to be observed in the management of all cases.

1. We must endeavour to apply such remedies as shall put a stop to the disease in the state of gangrene.

2. We must endeavour to arrest the progress of mortification when once formed, and at the same time lessen the violence of the local and general symptoms.

3. We must favour the separation of the slough, and when nature is incompetent to the task we must effect it for her.

a. In obeying the first general indication, we must always take into consideration the cause of the attack, and remove it, if possible, at once. If inflammation is the cause, antiphlogistics, general as well as local, are to be employed. If strangulation, or the arrestation of the circulation be the cause, the stricture must be divided by an operation, or relaxed by nauseants, &c. When produced by the binding of aponorosis, or skin, as in carbuncle, free incisions are to be made. When intense cold is the cause, the temperature of the part must be gradually increased, and the subsequent inflammation treated on general principles, &c. The best local remedies as a general rule, in this stage, are cold and astringent lotions, or warm fomentations, water dressings, or poultices. Leeches may also be occasionally employed.

b. In carrying out the second general indication, we must resort to both constitutional and local means. Tonics, as bark, wine, opium, a good diet, and fresh air, will generally be required. The local remedies are, incisions, (to be used only when the tissues bind, or fluids are infiltrated to some extent,) blisters, nit. argent., creosote, yeast or carrot poultices, chloride of soda, pyroligneous acid, and carbonated water. Charcoal and bark, once so highly esteemed, are not much employed at present.

c. The third general indication is answered by the application of warm dressings and poultices; removing the loose sloughs with the scissors and forceps; and by amputation.

Period at which amputation should be resorted to.—Depends on cause. In traumatic mortification remove the limb as soon as possible. In all other cases wait until the "red line of demarcation" is formed.

Point at which amputation should be performed.
In this stage it is usually necessary to support the constitution of the patient.

There are certain kinds of mortification which, from their peculiarities, deserve a separate notice. The first of these is

**Dry Gangrene.**

Definition.

Synonyms.—Gangrene senilis—gangrene of the rich.

Persons most liable.—The old and dissipated. Men are more frequently attacked than females.

Causes.—Divided by Francois into two classes.
1. Those which operate through the medium of the vascular system, as inflammation of the vessels, formation of clots in their cavities, obliteration of vessels, ossification of arteries, diseases of the heart, diseases of the blood from bad food, as ergotism, &c., and mechanical injuries which obliterate vessels.

2. Those which produce their effect in consequence of either local or general debility of the nervous system, as palsy, old age, and the excessive debility of certain diseases, particularly phthisis pulmonalis.

Symptoms.—1. Constitutional. 2. Local. When ergot is the cause, the attack may commence with convulsions of the limbs and vertigo, or it may begin with the usual local symptoms of dry gangrene from other causes. The former was called by Linnaeus "convulsio cerealis," and by Wepfer, "convulsio ab ustaligine." The latter, "necrosis ustilaginea," by Sauvages.

Prognosis.—Usually unfavourable.

Diagnosis.—May be imitated by malingerers.

Pathology.—Still a matter of dispute. Cite the different views of Delpech, Cruveilhier, Dupuytren, Thuillier, Tessier, &c.

Treatment.—1. Constitutional. 2. Local.

INFANTILE GANGRENE.

Definition.

Persons liable.

Parts usually attacked.

Causes.—Question of its contagiousness.

Symptoms.

Prognosis.

Diagnosis.

Treatment.

CHRONIC MORTIFICATION.

Definition.

Persons most liable.

Causes.

Symptoms.

Prognosis.

Diagnosis.

Pathology.

Treatment.

HOSPITAL GANGRENE.

Definition.

Synonymes.—Phagedena gangrenosa; putrid or malignant ulcer; hospital sore; gangrena contagiosa.

Causes.

Symptoms.

Prognosis.

Diagnosis.

Pathology.

Treatment.

MALIGNANT PUSTULE AND CHARBON.