

ter-irritation and *heat* over the organ by bringing blood thereto, tend to enhance the local antitoxic process; this may be further activated by hourly doses of $\frac{1}{10}$ grain of *calomel* to stimulate the adrenal system and increase the proportion of anti-toxin in the blood. More benefit is obtained, however, by the intravenous use of hot (110° F.) *saline solution* which, by promptly increasing the fluidity of the blood and secretions, facilitates evacuation of the gall-bladder itself, besides being beneficial in the infections in which it occurs.

Cholelithiasis.

Gall-stone, formed of cholesterin and lime-salts secreted in excess by the mucous membrane of the gall-bladder around a nucleus of bacteria, epithelial cells, bile-pigment and, occasionally, a foreign body. Its formation is due to inadequate fluidity of the bile and to the local catarrhal inflammation it provokes when, in this condition, especially when laden with micro-organisms.

The symptoms, due to the passage of a stone from the gall-bladder through the cystic and common ducts, are: very sudden and severe pain, starting in the region of the gall-bladder and radiating over the abdomen and toward the right shoulder; chills, fever, nausea, vomiting, then cold-sweats, rapid and weak pulse, and, in severe cases, shock and collapse. When the stone has passed into the intestine, more or less sudden relief is experienced.

Treatment: To relieve pain and facilitate the passage of the stone into the intestine, it is necessary to reduce the local congestion and cause relaxation of the cystic and common ducts: *Morphine* $\frac{1}{4}$ grain hypodermically to constrict the arterioles, and *potassium bromide* orally (30 grains largely diluted) to depress the blood-pressure or *chloral hydrate* per rectum if the bromide salt is not retained. The dislodgment of the stone is facilitated by intravenous injections of hot (110° F.) *saline solution*, the mode of action being similar to that of the waters taken at mineral springs, *i.e.*, it promotes the osmotic properties of all fluids including those which are present in the gall-bladder along with the gall-stones. Hence the great efficacy of Carlsbad waters in

chronic cholelithiasis. The free use of *alkaline mineral waters* in such cases is the best preventive by insuring the fluidity of the bile.

Cholera Asiatica. See Asiatic Cholera.

Cholera Infantum, treated in full 1737

Cholera Morbus, treated in full. 1734

Chorea, Acute, 1289, 1293, 1317, 1323, 1324, 1325.

Due to the presence in the blood of any poison capable of exciting abnormally and continuously the vasomotor center, the general vasoconstriction produced keeping up abnormal functional activity in all tissues, especially the muscles and nervous system, through the hyperæmia produced therein. The exciting cause may either be (1) wastes formed through excessive metabolism, as in the chorea of adolescents, pregnant or parturient women, iodoform poisoning, etc., or as a result of hypocatabolism, as in the aged, gouty or rheumatic subjects; (2) toxins such as those of scarlet fever, measles, typhoid fever; or, (3) autotoxins, as in the chorea which sometimes occurs in dyspeptic subjects.

Treatment: As the majority of cases which occur in adolescents are due to hypermetabolism: *arsenic* to depress the test-organ, *i.e.*, the functional activity of the adrenal center and, therefore, the nutrition of all organs, including the sympathetic and vasomotor centers, thus causing relaxation of the hyperconstricted arteries. Less valuable are: *chloral*, which depresses the adrenal system and the vasomotor center, and by causing relaxation of all arteries withdraws the blood from the capillaries of the excited organs; *antipyrin* or *acetanilid*, which by causing constriction of the arterioles reduce the quantity of blood admitted into the tissues.

In chorea due to inadequate catabolic activity, as in senile, gouty or rheumatic subjects, the *iodides*, or small doses of *thyroid gland*, by enhancing the destruction of wastes reduce the sensitiveness of the sympathetic center. In all forms *saline so-*

lution enemata and the free use of *mineral waters* as beverage hasten the curative process by facilitating the elimination of the pathogenic toxics.

Chorea is closely associated with epilepsy, and the *dietetic measures* advocated in the latter disease are also indicated in the former.

Chorea, Chronic.

Due in predisposed subjects to inadequate activity of the adrenal system and irritation of the vasomotor center by toxic wastes, the resulting hyperæmia of the cortex giving rise to vicarious voluntary movements.

Treatment the same as for acute chorea in gouty or senile subjects.

Chorea, Postparalytic.

Characterized by choreiform movements immediately before or after cerebral disorders which involve cerebral pressure, as by the coagulum after cerebral hæmorrhage. The movements differ with the cerebral areas compressed. *Prehemiplegic chorea* usually occurs in the limb about to be paralyzed, while *post-hemiplegic chorea* may affect limbs that have been paralyzed and indicates returning motion; but most cases occur as a result of infantile hemiplegia; it is often followed by contractures and hemi-anæsthesia.

Treatment: As the morbid effects are due to pressure, the aim should be to promote the absorption of the blood-clot or other substance causing it. In *prehemiplegic chorea*, when detected—the movements being sometimes very slight—the timely use of *potassium bromide* to depress the vasomotor center and the blood-pressure; a *saline purgative* to rid the intestine of any substance which may provoke auto-intoxication and supra-normal vascular tension, and the further prevention of this potent factor of cerebral hæmorrhage by appropriate diet, *viz.*, the omission of red meats, coffee, tea, alcohol, etc.; the avoidance of fatigue, which entails the formation of an excess of sarcolactic acid (also a vasomotor stimulant), may do much to prevent the hæmorrhage and the resulting hemiplegia.

Choreiform Disorders.

Several of these, now differentiated by separate names, are traceable to

the presence in the blood of some tissue-waste capable of keeping the vascular centers—sympathetic and vasomotor—in a more or less constant state of erethism. The resulting high vascular tension causing hyperæmia of all organs, including the brain, the latter is hypersensitive to exogenous impressions and hyperresponsive in the coördination of concepts and of voluntary impulses to the spinal system.

This cerebral hyperæsthesia underlies various more or less morbid states: *Chorea major* or epidemic, jumping, springing, or gesticulating under the influence of religious excitement, is caused by the flood of wastes with which these violent actions burden the blood; even epileptic convulsions may result. In *impulsive tic* the cerebral hyperæsthesia preëxists and any part of the hyperæmic cortex readily becomes habituated to the coördination of movements carried out through the spinal or motor system: grimaces, winking, sudden motions of any extremity. Mental concepts may undefile these motor impulses, as when there are mimicry and rapid repetition of words (*echolalia*), obscene expressions (*coprolalia*), a repetition of the motions of others (*echokinesis*) or of the names of others (*onomatomania*), etc. *Habit chorea* or *spasm*, which occurs mainly in young girls, differs little if at all from the above, the sniffing, grimaces, shrugging of the shoulder, shaking of the head, etc., being also but the expression of acts coördinated by hypersensitive cerebral cells. The *complex coördinated tics*, such as the "head-nodding" or "banging," or the "bed-rocking" of children, all belong to the same category.

Treatment: As the spasmogenic wastes may be due to hypermetabolism or hypocatabolism, the first step is to ascertain which of these conditions prevails. In *chorea major*: a few days' rest to permit the breaking down of the spasmogenic wastes and their elimination, the free use of *water* to facilitate this process, and perhaps a *saline purgative* to hasten recovery. *Impulsive tic* of long duration seems to resist all forms of treatment which prove effective in recently developed cases: that of chorea, with sustained effort to avoid the grimaces, etc. In the *habit chorea* of young

girls, auto-intoxication of intestinal origin is the usual cause of the arterial hyperconstriction. A weekly *saline purgative*, and Fowler's solution of *arsenic*, with a *diet* in which red meats are partaken of sparingly, while water, or better, an alkaline water, especially Vichy, is used freely, usually insure prompt recovery. The *complex coördinated ties* occur, as a rule, in backward children or semi-cretins in which the catabolism of toxic wastes is imperfect. Here *saline purgatives* followed by small doses (one grain t.i.d.) of *thyroid gland*, by simultaneously ridding the intestinal canal of any cause of auto-intoxication while increasing the activity of the vital process of catabolism, eliminate the cause of the disorder.

Cirrhosis of the Liver.

A term applied to a condition in which inflammatory destruction of the parenchyma is replaced by an overgrowth of connective tissue, which, in turn, gives rise in most cases to sclerosis and shrinking of the organ. This constitutes *atrophic cirrhosis*. In some cases, the connective tissue formation is not followed by sclerosis and shrinking, but, on the contrary, the connective tissue accumulates in such quantities that the organ becomes greatly enlarged. This constitutes *hypertrophic cirrhosis*. In a third class, the inflammatory process is initiated and sustained by the toxic constituent of the bile, which, in turn, is retained in the biliary hepatic channels as a result of obstruction of the gall-ducts by gall-stones, malignant or benign growths, etc., thus constituting *biliary cirrhosis*.

Due to the prolonged presence in the blood of any poison or toxin capable of endowing the plasma with sufficient proteolytic activity to enable it to break down and digest the hepatic tissues, *i.e.*, to provoke hepatic autolysis. The causes of this morbid process may be divided into three main classes: (1) Alcohol, the most prolific cause of the disease, incites it by becoming oxidized while passing through the liver, the oxygen being derived from the adrenoxidase of the hepatic blood, the heat-energy thus liberated increasing the digestive activity of the blood's auto-antitoxin

sufficiently to provoke death of the tissue-cells and hæmolysis; (2) the toxins or endotoxins of the pathogenic organisms of syphilis, typhoid fever, tuberculosis, scarlatina, malaria, etc., and probably the toxin of the bacillus coli, also provoke it by causing excessive activity of the adrenal system, thus increasing inordinately the proportion of auto-antitoxin in the blood; (3) irritating soluble substances, poisons, condiments, toxic wastes (as in gout and rheumatism), etc., whether derived from the alimentary canal by way of the portal system, or retained in the liver owing to obstruction of the biliary ducts, may also act as cause, by provoking in the cellular elements which they irritate an inflammatory auto-protective reaction which leads to local autolysis and necrosis.

The primary lesion in all cases of true cirrhosis is cellular necrosis, whether brought on by local inflammation or direct autolysis. The connective tissue overgrowth is the result of an attempt at repair. At first highly cellular and vascular, it may, as in the hypertrophic form, exceed the needs of the process, but in most cases, it finally becomes converted into dense fibrous tissue which obliterates the gaps left by the necrosed elements, causing simultaneously, however, shrinkage of the organ.

The symptoms are mainly those of hepatic obstruction: gastric disorders attended by nausea, anorexia, etc., and accumulation of mucus in the viscus with intestinal catarrh and constipation, all due to passive hyperæmia of the gastro-intestinal mucosa. When the portal vessels are sufficiently obstructed, passive hyperæmia of all organs follows, and obstinate hæmorrhages, epistaxis, hæmatemesis, metrorrhagia, hæmaturia, etc., which may prove fatal, occur; the veins of the surface, especially those of the thorax and abdomen on a level with the liver, are dilated; hæmorrhoids also occur from the same cause; the spleen is also enlarged, owing to the intense blood-pressure to which it is subjected. When the gall-ducts are sufficiently involved the skin is sallow and jaundice appears. Abdominal dropsy is an advanced manifestation of the vascular obstruction, and may extend to the legs. The urine is

usually scanty, highly colored, and loaded with urates.

Mental torpor, drowsiness, delirium and coma are main terminal symptoms.

In the *atrophic* form, the liver is large at first, but physical examination soon shows recession of its tissues; jaundice is infrequent. In the *hypertrophic* form, the organ is large and remains so, and jaundice is, as a rule, slight but persistent and the urine contains bile; but there is no hæmaturia. In *biliary cirrhosis*, there is intense jaundice and the liver remains moderately enlarged.

Treatment: Whichever form prevails, the first object is to arrest the intoxication which directly or indirectly causes the disease. Cessation of the use of alcohol, followed by bi-weekly *saline laxatives* (avoiding mercurial and other purgatives which stimulate the adrenal system) and a *milk diet* for a few days, suffice in incipient cases to initiate convalescence. To insure recovery a diet just sufficient to nourish the body and the free use of *water* should be persisted in. In more advanced cases, characterized by marked venous distension and hæmorrhages, hot (110° F.) *saline solution* injections subcutaneously or intravenously in addition, to reduce the toxicity of the blood, facilitate osmosis and, therefore, the permeability of the hepatic channels, thus relieving the blood-pressure. This applies also to the cirrhosis that follows acute infections. This complication would never occur if *saline solution* were used freely in the course of all febrile diseases.

Drugs are more harmful than beneficial, especially mercury and the iodides, which increase the proportion of auto-antitoxin in the blood and thus increase its morbid action on the hepatic tissues.

Collapse..... 1215, 1222, 1224, 1225

Constipation 1374

May be due to one of many conditions: (1) Intestinal atony, in anæmic, neurasthenic and debilitated or old subjects, the anatomical cause being a deficiency of blood in the muscular and secreting elements of the intestine, owing to inadequate propulsive activity of their arterioles and as a consequence local ischæmia with

its results: inadequate peristalsis and deficiency of intestinal juice; (2) a similar morbid process brought on by excessive purgation or prolonged catarrhal inflammation and exhaustion of the secretory and muscular elements of the intestine; (3) inability of the blood to spare, after copious perspiration or the ingestion of insufficient fluids, the water necessary to furnish a sufficient supply of intestinal juice to liquefy and insure the downward progress of the excrements; (4) the use of foods which leave but little residue or waste and which thus fail to excite reflexly the peristaltic and secretory functions of the intestine; (5) mechanical interference with the expulsion of the fæces, owing to pressure on the intestine of a retroverted uterus, foreign bodies, a stricture, a tumor, etc., or by hardened scybala in the intestinal pouches; (6) peristaltic torpor, due to excessive distension of the intestine by large fæcal masses allowed to accumulate therein through neglect of the act of defecation. It is usually most marked in the region of the sigmoid flexure, but the entire colon may be dilated. Such a condition may be congenital.

Treatment: In cases due to general adynamia, anæmia, etc., the successful treatment of these conditions usually corrects the constipation, especially when *strychnine* or *nuva vomica* to raise the blood-pressure and thus increase the volume of blood in all peripheral vessels, with *belladonna* to enhance the propulsive activity of the intestinal arterioles, is also given, and if the patient acquires the habit of going to stool at a fixed hour daily. The *food* of all cases should include enough vegetables, fruit, cereals, etc., to insure a copious residue; the free use of *water* is also of great importance. *Exercise* and *abdominal massage* aid intestinal action, provided fatigue and free perspiration be avoided. *Enemata*, especially when large and injected warm (not less than 105° F.), are effective adjuvants.

When purgatives are necessary, the cause of constipation should also be taken into account. In asthenic cases, *calomel* in small doses frequently repeated not only produces the desired effect, but by stimulating the adrenal system aids the general curative process carried on by the tonic reme-

dies referred to above. In stubborn cases *aloes* or *aloin* may be added to the *strychnine* and *belladonna*, owing to its stimulating action on the sympathetic center and the hyperæmia of the intestinal vessels thus provoked.

In constipation due to intestinal catarrh all these agents would aggravate the trouble by increasing the intestinal congestion. Here the *mineral aperient waters* such as Apenta, Hunyadi János, Carlsbad, Saratoga, etc., or plain *Epsom salts*, *citrate of magnesia*, etc., are of the greatest value, since they promote flushing of the intestine with intestinal juice laden with auto-antitoxin. The constipation which occurs in the course of febrile diseases is almost entirely due to deficiency of fluids and impairment of the osmotic properties of the blood, and is prevented by the use of *alkaline beverages* or *saline solution* throughout the disease.

Simple means should always be given preference, especially in children: *glycerine* or other mild *suppositories* which cause evacuation mainly through reflex contraction of the intestinal muscular layer; *enemata*, which do likewise, besides softening the fecal masses.

Consumption. See Pulmonary Tuberculosis.

Convalescence, Retarded 1239

Coryza, Acute, 1214, 1215, 1245, 1246, 1349.

Cough 1281

Cretinism. See Myxœdema, page 1866, and DISEASES OF THE THYROID APPARATUS, Vol. I.

Croupous Pneumonia. See Pneumonia.

Dandy Fever. See Dengue.

Dementia Paralytica.
A gradual degeneration of the cerebro-spinal system, which occurs as a result of inflammation of its vascular and nervous elements, including the neuroglia, and depression of the functions of the adrenal system.

Syphilis, its principal cause, prepares the ground for its development by causing during the secondary pe-

riod, a violent reaction of the adrenal system which provokes hypertrophy of the vessel-walls and congestion of the capillaries, including those of the central nervous system, the neuro-fibrils, the neuroglia, etc. When the tertiary period characterized by marked debility of the adrenal system, is reached (see Syphilis), the nutrition of the brain and cord is thus impaired through two morbid factors: the vascular lesions and the deficiency of the blood constituents which sustain metabolism in all tissues. Alcohol produces it by becoming oxidized in the blood, thus causing the liberation of an excess of heat-energy and vascular lesions, while impairing markedly the oxygenation and therefore the nutrition of all tissues including those of the cerebro-spinal system, and their centers.

The symptoms correspond with these stages, beginning with abnormal mentality and acts, irritability, restlessness, excitement, and even mania, with motor disturbances of various kinds, until the paralytic stage is reached, when all functions gradually cease.

Treatment: This depends upon the stage at which the patient is seen. During the period of excitement the active hyperæmia of the cerebro-spinal system can only be aggravated by the remedies now used—mercury and the iodides. *Saline solution* hypodermically or endovenously, by increasing the fluidity of the blood and its free circulation in the nervous elements, reduces markedly the pathogenic hyperæmia, especially if the *diet* does not include stimulants or red meats and if the intestines are kept free by means of *saline aperients*. After the period of excitement has been caused to subside by these measures, *thyroid gland* in very small doses, ½ grain t.i.d., tentatively and slowly increased until 2 grains t.i.d. are taken, is indicated to promote gradually the general nutrition, including that of the cerebro-spinal system, while insuring the breaking down of toxic wastes which tend to excite the vasomotor center and cause a recurrence of the dementia.

Contraindicated: The bromides, chloral and other depressants, all of which tend to promote the cerebral atrophy.

Dengue.

An epidemic, infectious fever characterized by very severe pains in the joints and muscles and, in some cases, by eruptions, is due to the toxin of some bacillus (probably McLaughlin's micrococcus), which depresses or paralyzes the sympathetic center. The arterioles of the entire body being dilated, the sensory terminals are rendered hyperæmic and evoke painful sensations. The flow of blood into the capillaries being no longer regulated, there may be hæmorrhages from the nose, gums, stomach (black vomit-like), intestines, etc., and an erythematous rash in the skin and around the tongue, headache, flushing, conjunctival congestion, adenitis, high fever (reaching sometimes 107° F.). The sensation of burning, the pruritus, and the marked depression that succeeds the disease—which lasts from five to nine days—all indicate the supranormal metabolism to which the tissues are subjected.

Treatment: *Morphine* and the coal-tar products, *antipyrin* and *acetanilid*, are very efficacious; by exciting the sympathetic center they cause constriction of the arterioles and by inhibiting the excessive flow of blood into the capillaries arrest the morbid phenomena. To curtail the disease: *thyroid gland* in small doses to increase the proportion of auto-antitoxin and thyroiodase (opsonin) in the blood; and in severe cases *saline solution* subcutaneously or intravenously to enhance the bacteriolytic and osmotic power of the blood and facilitate the elimination of the large proportion of wastes formed through the excessive metabolism. In the average case, however, *saline beverages*, alkaline mineral waters, etc., suffice when used freely.

Dercum's Disease. See Adiposis Dolorosa.

Diabetes Mellitus, treated in full 1583

Diarrhœa, Acute. See Enteritis, Acute.

Diarrhœa, Infantile. See Infantile Diarrhœa.

Diarrhœa, Tropical. See Enteritis, Chronic.

Diphtheria 1158, 1184

A contagious disease characterized by the formation, especially on the pharyngeal, laryngeal, or nasal mucosa, of a false membrane which tends to spread and provoke local necrobiosis, and secondary constitutional infection. Due to the presence in the affected area of the Klebs-Loeffler bacillus. The membrane is formed by the phagocytic leucocytes and epithelial cells which attack the pathogenic bacilli, and the auto-antitoxin and fibrin-laden muco-plasma poured out to aid the auto-protective process. The surface affected first appears red, then whitish gray, and thickens. It may then become yellowish gray or brown, and shows a characteristic tendency to spread. It peels off in flakes, leaving a red and more or less bloody surface, or in mild cases a pale red area. The surrounding tissues often become œdematous and swollen, causing dyspnœa, dysphagia, etc., besides the local soreness. The Eustachian tubes, the conjunctivæ, etc., may thus also be involved by extension.

The general phenomena are due to a very highly toxic substance produced by the rapidly multiplying bacteria at the seat of infection and absorbed mainly by the lymphatics, the lymph-nodes around the local lesion being soon large, tender and painful. While small quantities only enter the blood, the test-organ, i.e., the adrenal system, reacts under their influence, and the proportion of auto-antitoxin and leucocytes (including phagocytes) is greatly increased, as shown by the fever, which sometimes reaches 104° F. This period of active defense is of short duration: When a certain proportion of diphtheria toxin is allowed to accumulate in the blood, the test-organ is paralyzed by the poison and extreme prostration, a feeble and rapid pulse, and death from heart-failure occur in rapid succession. In very severe cases paralysis of the adrenal system may occur at the outset, the patient dying almost immediately.

Treatment: Three indications impose themselves: (1) to flood the blood at once with auto-antitoxin; (2) to sustain the functional efficiency of the adrenal system and, therefore, insure the continuous production of auto-antitoxin; (3) to ar-

rest the multiplication of diphtheria bacilli and the production of toxin.

Auto-antitoxin being naught else than *antitoxin*, the latter should be used at once when there is any evidence whatever that diphtheria is present, an affirmative bacterial diagnosis being regarded only in the light of a confirmatory procedure. The antitoxin can do no harm; to await an official report compromises the issue. The second indication is met by *biniodide of mercury*, which, by powerfully stimulating the test-organ, not only antagonizes the paralyzing influence of the toxin, but increases also the proportion of auto-antitoxin and thyriodase produced. Its use should be begun at once; it can be injected intravenously (dissolved in twenty drops of sterilized water) if the patient cannot swallow. The third indication is met by the local application of a 10-per-cent. solution of *potassium permanganate* around the margin of the false membrane and under the latter if possible, on the surfaces over which it tends to spread, and over the surfaces from which false membrane has become detached. The value of this salt is due to its powerful oxidizing action, which sustains the bacteriolytic activity of the secretions. *Peroxide of hydrogen* acts similarly; mixed with an equal quantity of *Dobell's solution*, it should be sprayed frequently and freely into the nasal cavities and over the pharynx.

Prophylaxis. The value of *antitoxin* as such is self-evident, but by increasing the formation of auto-antitoxin: *calomel* in small doses until green stools are produced, still greater protection can be afforded.

Dropsy 1383, 1388

Dysentery 1377, 1380, 1386

An inflammatory disorder of the colon involving at times the small intestine, three distinct forms of which are recognized: (1) The *acute catarrhal*, due to excessive activity and the resulting hyperæmia of the entire mucosa, brought on: either by the elimination through the latter of detritus, wastes, toxins, etc., in excessive quantities in the course of general infections, especially the acute exanthemata and tuberculosis; or, by the irri-

tating action of indigestible foods, unripe fruit, etc., particularly during the summer months while the functional activity of the adrenal system is more or less depressed. (2) The *pseudo-membranous*, due to the dysentery bacillus of Shiga, very similar morphologically to the typhoid bacillus, which acts directly upon the mucosa of the colon, especially in individuals debilitated by malaria, provoking through its toxin a local process akin to that of diphtheria in the naso-pharynx. This includes the false membrane, formed mainly of dead phagocytic leucocytes, fibrin, etc., and containing specific bacilli. It first appears in the rectum and extends upward along the sigmoid flexure, the descending colon, etc., according to the severity of the case, the underlying mucosa being hyperæmic, showing here and there bleeding points, and covered with blood-stained mucus. Perforation of the intestine and other complications, hepatic abscess, paralysis, etc., most cases dying in extreme adynamia. (3) The *amœbic*, caused by the amœba coli, a phagocytic, motile organism, which shows a special predilection for red corpuscles. It produces ulceration of the mucosa and submucosa, and occasionally of the muscular coat and even of the peritoneal coat. The area attacked is first transformed into a gelatinous mass, composed mainly of detritus containing the amœba, which mass on becoming detached forms the ulcer. The latter then becomes invaded by connective tissue which fills the gap in the mucosa, but without restoring its function. Abscesses and necrotic areas may also occur in the liver in this form, owing to migration of amœbæ into the mesenteric vessels and the portal system; and these abscesses may in turn break into the adjoining pulmonary tissues. Death may occur in from one to three weeks or the disease may assume a chronic type.

Diarrhœa, abdominal cramps and tenesmus and more or less fever occur in all forms, but in the pseudo-membranous form these symptoms are very severe, the stools contain more blood, and there is profound weakness. The presence of the Shiga bacillus or of the amœba in the stools distinguishes these forms from the ca-

tarrhal type. All three may become chronic, especially pseudo-membranous dysentery.

Treatment: In all forms the aim should be to flush the colon with auto-antitoxin-laden intestinal juice. This is most efficiently done by means of *magnesium sulphate*, two drachms every hour, until copious watery stools are obtained. *Thyroid gland* 2 grains, or if not available, *biniodide of mercury* $\frac{1}{16}$ grain, or *iodoform* (also a powerful adrenal stimulant) 2 grains t.i.d., should then be given four days and the purgation renewed. This course should be repeated until the stools contain no mucus, blood, bacilli dysenteriae or amœbæ, as the case may be. The *ipeacac* method, used in the amœbic type, acts much in the same way indirectly, viz., by depressing the sympathetic center and causing dilation of all arterioles, including those of the intestine, and engorgement of their secretory elements. One dose of 20 to 60 grains is given on an empty stomach, its effects being controlled by a preliminary dose of *laudanum*. Opiates are almost necessary to control the pain, but as they produce their effect by constriction of the arterioles they interfere with the curative process. The tenesmus is a most trying symptom which may be controlled by *opium suppositories*. In the amœbic form, 0.1 to 0.2 per cent. *quinine* enemata at 105° F. aid the curative process. A similar solution of *silver nitrate* is effective, especially in the chronic form, without interfering with the action of the intestinal juice. In tropical countries especially, *alkaline beverages* or *saline solution* hypodermically are indicated to enhance the osmotic properties of the blood and fluids, including those which constitute the intestinal juice.

Serum therapy has been tried with some success in dysentery. Its value is self evident in the light of the foregoing facts and in view of the identity of all antitoxins as auto-antitoxin. This suggests that its use in all cases would prove a powerful adjunct to the measures recommended above.

The *diet* should be such as to avoid the passage of much detritus in the intestine, but it should include foods calculated to sustain the patient's strength.

Dysmenorrhœa.....1215, 1289, 1293
1354, 1387.

Eclampsia, Puerperal. See Puerperal
Eclampsia.

Eczema, Chronic. 1383

Emphysema, Vesicular.

Characterized by abnormal distension, succeeded by atrophy, of the air-cells, and due to the persistent coughing of chronic bronchitis, the resistance to the egress of air in asthma, to glass-blowing, playing of wind instruments, and other conditions which impose considerable strain upon the cells. The atrophy involving the capillaries of the alveolar walls, the oxygenation of the blood is correspondingly inhibited; hence the marked dyspnoea, and in marked instances, cyanosis, observed in these cases.

Treatment: The indications are to increase the blood supplied to what normal alveoli remain, by causing dilation of the arterioles or by increasing their propulsive activity, and simultaneously the power of the blood to absorb oxygen. Hence the value of *belladonna* or *atropine*, which meet both these requirements by stimulating the sympathetic center and the adrenal system, and that of *potassium iodide*, which also excites the latter and increases still further thereby the proportion of adrenoxidase in the blood. Given jointly these agents are very effective and tend moreover, by increasing the nutrition of the alveolar walls, to counteract the disease itself. When it becomes necessary to interrupt the treatment owing to the action of belladonna on the pupil, iodism, etc., *strychnine*, by sustaining the functional activity of the adrenal system and a high blood-pressure which keeps the normal pulmonary capillaries hyperæmic, is very efficient. In obese subjects, *thyroid gland* in small doses may also be used with advantage.

Attacks of acute dyspnoea or cyanosis are promptly counteracted by inhalations of *amyl nitrite* or the use of *stramonium* cigarettes employed in the treatment of acute asthma. The latter disease is often present simultaneously; in such cases the *diet*

should not include much meat or other foods which lead to the formation of nuclein wastes in large quantities.

Encephalitis, Acute Suppurative; or Cerebral Abscess.

Inflammation of the brain with the formation of pus may be caused by the migration of bacteria from adjoining foci, such as nasal, aural, mastoid abscesses; or from emboli from the heart in endocarditis; from the lungs in pulmonary gangrene or abscess; from hepatic abscess, carious bones, etc., or by bacteria in the course of septicæmia, influenza, erysipelas, etc. It may also follow cerebral traumatism, blows, etc. The symptoms of a septic fever are usually present, with vomiting, vertigo, mental torpor, optic neuritis, delirium, and coma, preceded in some cases by epileptoid convulsions. The symptoms resemble those of meningitis, with which encephalitis is often associated.

The encephalic abscess may be chronic and slow in development, causing slight headache, vertigo, irritability and even convulsive seizures and other phenomena of the acute form. They differ from those of cerebral tumor in that they include fever.

Treatment: Besides surgical measures to the source of infection if, as in mastoid abscess, they are within reach, an important feature is to enhance the bacteriolytic and antitoxic properties of the blood by means of *thyroid gland*, which not only provokes the formation of an excess of auto-antitoxin, but also of thyroiodase (opsonin) which renders the pathogenic bacteria vulnerable to the phagocytes. *Saline solution* intravenously or hypodermically is also indicated to facilitate osmosis and, therefore, the evacuation of the abscess.

Endarteritis Chronica Deformans. See Arteriosclerosis.

Endocarditis.

Not due, as now taught, to direct infection of the valves or endocardium. Whether simple, malignant, or chronic, it is always due to autolysis of the cardiac tissues by the blood when it contains a marked ex-

cess of auto-antitoxin and thyroiodase, as may be the case in any of the diseases which provoke endocarditis. Hence the usual presence of the abrasions along the line of contact of the leaflets, their surface, and the wall of the cardiac cavity of the left ventricle, that through which arterial blood circulates with greater vigor than elsewhere in the body owing to the ventricular contractions. The occasional presence of bacteria in the lesions is but an adventitious circumstance of the causative general disease, the vegetations being efforts at local repair.

Treatment: This disease would occur very infrequently were the blood's fluidity and osmotic properties preserved by the use of *saline solution* in all infections: when endocarditis is present, small doses, intravenously. *Bromides* to reduce the blood-pressure and the friction of the blood column upon the endocardium. *Veratrum viride* if the blood-pressure is excessive, the patient keeping the recumbent position. Free use of *alkaline waters* is also indicated to facilitate the elimination of detritus.

Contraindicated: Quinine, digitalis, and all agents which tend to raise the blood-pressure, including opium, which does so by causing constriction of all arterioles.

Enteritis, Acute, treated in full. 1750

Enteritis, Chronic, treated in full 1753

Epilepsy, treated in full. 1454

Erysipelas 1215, 1383

An acute dermatitis due to infection of an abraded surface by the streptococcus erysipelatis of Fehleisen, characterized by a tendency to spread.

Treatment: To insure prompt destruction of the pathogenic germs: *biniiodide of mercury* ($\frac{1}{16}$ grain) and *iodoform* (1 grain) every three hours, the former to increase the auto-antitoxin, and the latter the thyroiodase of the blood. If the case is severe, *pilocarpin* $\frac{1}{4}$ grain every three hours hypodermically, to increase the propulsive activity of the arterioles and thus drive the blood laden with auto-antitoxin into the infected tissues. *Lead-water* locally.

Exophthalmic Goiter 152

Characterized by exophthalmos, goiter and a rapid pulse in sufficiently advanced cases, and showing two distinct stages: the first or *sthenic*, in which, besides the foregoing symptoms, there are headache, irritability, excitability and even mania, cramps in the limbs, flushing and superficial heat, intense thirst, a ravenous appetite, and other signs pointing to excessive general metabolism; and the *asthenic* stage, which is not always reached: mental torpor, melancholia, weakness, various forms of motor paralysis, pallor, general marasmus, dental caries, leucoderma, bronzing, diarrhoea and persistent terminal vomiting and other phenomena denoting a steady decline of metabolic activity until death occurs.

Due to the continued presence in the blood of any poisonous substance, the toxins of various germs, toxic wastes such as those that accumulate during fatigue, menopause, etc., digestive auto-toxins, etc., which persistently excite the test-organ and through it the thyroid gland and adrenals, causing marked congestion and swelling of the former, and hyperactivity of the latter, and therefore excessive metabolic activity—the characteristic of the *sthenic* stage.

Treatment: During the *sthenic* stage, measures to reduce the sensitiveness of the test-organ: the *bromides* or *veratrum viride* and if the case be due to intestinal auto-intoxication, frequent *saline purgation* and the *avoidance of meat*; in the earlier stages a prolonged *milk diet*. All adrenal stimulants, especially digitalis, are contraindicated. In cases due to menopause *thyroid gland* in small doses sometimes effective, to provoke catabolism of toxic wastes.

During the *asthenic* stage the aim should be to aid the broken down nervous system by means of *adrenal* and *thyroid glands* internally, and if need be, injections of *antitoxin*. When these cannot be obtained, *strychnine* or *nux vomica*, to incite general nutrition and oxygenation. A free supply of *nutritious food*. See also DISEASES OF THE THYROID APPARATUS, Vol. I.

Fibrinous Pneumonia. See Pneumonia.

Fractures 1145

Gastralgia.

Acute pain in the epigastrium, is caused by paroxysmal hyperæmia of the nervi nervorum of the underlying structures. In the anæmic it is due to relaxation of the arterioles which supply the painful area, and in *sthenic* individuals, to excessive propulsive activity of these vessels.

Treatment: The *camphorated tincture of opium*, *morphine*, or *acetanilid*, to cause constriction of the arterioles; or *bromides*, *chloral*, or *veratrum viride*, to lower the blood-pressure and cause the blood to recede into the deeper and larger vessels and thus relieve the congested nerves.

Gastrectasia.

Dilatation of the stomach, may be due (1) to mechanical factors, forced expansion of the organ through overeating or drinking, obstruction of the pylorus by tumors, scar-tissue, or pressure, as by a tight corset, etc., and (2) to atony of the walls of the stomach. The latter form, that most frequently met with, is due to hypometabolism in the gastric muscles (as well as in others) owing to depression of the functional activity of the adrenal system in the course of debilitating diseases, anæmia, spinal disorders, tuberculosis, etc.

Treatment: Removal, if possible, of the cause. In the form due to atony, *strychnine* in addition, in increasing doses until $\frac{1}{20}$ grain is given t.i.d., or *thyroid gland* in small doses. *Blaud's pill* in cases due to anæmia, with the *strychnine*. When the digestion is very imperfect, *pepsin* or dilute *nitro-muriatic acid*, the latter to increase the production of pancreatic juice. In severe cases, *lavage* in addition, especially if there is marked fermentation of ingesta, the diet being adjusted to the needs of the case. Mercurial purgatives, especially *calomel*, at intervals.

General Paralysis. See Dementia Paralytica.

German Measles. See Rubella.

Glycosuria. See Diabetes Mellitus.

Glycosuria, Asthenic. See Asthenic Glycosuria.

- Glycosuria, Toxic (Depressants).**
See Asthenic Glycosuria.
- Glycosuria, Traumatic.** See Asthenic Glycosuria.
- Gout and Gouty Diathesis,**
treated in full..... 1500
- Hæmophilia,** treated in full.... 1791
- Hæmorrhage, Post-partum.....** 1386
- Hæmorrhage, Uterine**
(Fibrinoids). 1386
- Hay Fever.** See Hyperæsthetic Rhinitis.
- Headache, Bilious.** See Migraine.
- Headache, Sick.** See Migraine.
- Heart, Dilatation of....** 1175, 1221,
1224, 1225, 1231, 1239.
- Heat-stroke. (Insolation, sun-stroke.)**
Due to the accumulation of waste-products in the blood. The normal temperature of the body being that at which metabolism is carried on safely, when the temperature of the surface exceeds a certain limit the proteolytic activity of the ferments (trypsin, adrenoxidase, etc.,) which insure catabolism becomes excessive in proportion. The waste-products then accumulate in the blood to such a degree that the vasomotor center is violently stimulated and the vascular tension becomes such that intense venous congestion, pulmonary œdema and other conditions indicating intense blood-pressure are produced—life in some instances being arrested almost instantly.
Treatment: To restore the normal temperature of the blood is beneficial, but to lower it excessively with ice causes an excessive formation of toxic wastes by inhibiting catabolism. Hence *bathing* or, in the absence of a tub, *sponging* with water at 90° F. to promote the dissipation of heat. Simultaneously *saline solution* at 100° F. (thus reaching the tissues at the normal temperature) intravenously, injecting one quart slowly. By liquefying the blood and promoting osmosis, much of the wastes pass out of the vessels into the tissues, and

are eliminated with the excretions. *Blood-letting* prior to injection, if the venous engorgement is marked. Also *nitrite of amyl* inhalations to relax the arterioles, and also the arteries if its use is prolonged. *Chloral hydrate*, orally if possible, but if not, by enema; or *veratrum viride* hypodermically. Painting of *guaiacol* over an area about six inches square over the chest or back helps markedly to lower the blood-pressure.

Hemicrania. See Migraine.

Herpes Zoster. See Neuralgia.

Hydrophobia. See Rabies.

Hyperæsthetic Rhinitis,
treated in full..... 1709

Hysteria 1380

Due to hyperæsthesia of the various centers of the posterior pituitary body (the *sensorium commune*), the result, in turn, of hyperæmia of its nervous elements. This hyperæmia may be caused or increased by any condition which provokes a marked and frequent rise of the vascular tension: frequently repeated sexual orgasm, chorea, anger, shock, worry, prolonged febrile processes, excessive mental labor, alcoholism, morphinism, etc., and in delicate girls, by auto-toxins of intestinal origin, or inadequately broken down wastes.

The general nerve centers being constantly hyperæsthetic, an attack is readily induced by any condition which increases temporarily their hyperæmia: excitement, joy, grief, fear, etc., or which submits them to too sudden a concussion: a loud noise, a horrifying sight, a severe pain, etc. The mental, sensory, motor and secretory morbid phenomena witnessed are all due to imperfect coördination of the circulation of the organs interested, including those of special sense, when, as is frequently the case, vision, hearing, smell and taste are impaired.

Attacks of *hystero-epilepsy* are but violent exacerbations of the morbid process in which the muscles, the cortex and the spinal motor cells are abnormally hyperæmic.

Treatment: The belief of many that attacks of hysteria are artificial

is based only upon the ignorance of those who have advanced this view. Hysterical subjects should be treated as solicitously as epileptics.

The *Weir Mitchell* treatment is eminently adaptable to such cases, the result attained being reduction of the central hyperæmia by enforced rest and appropriate dietetic measures. In those who cannot avail themselves of this method: *arsenic* to depress the functional activity of the adrenal system and reduce general oxygenation, including that of the hyperæsthetic centers. On retiring, *potassium bromide* alternating with *veratrum viride* to depress the vasomotor center and facilitate ischæmia of the same centers during sleep. Occasional *saline purgatives* to keep the bowels free of any products which when absorbed tend to increase the vascular tension. Physical rest to prevent the accumulation of wastes, which do likewise.

During attacks, *apomorphine* hypodermically to cause relaxation of the arterioles. In severe cases and in hystero-epilepsy, this may be preceded by inhalations of *amyl nitrite* to produce a similar effect promptly. When prolonged these inhalations depress both the sympathetic and vasomotor centers. In all cases *saline solution* hypodermically or as enema is very useful to increase the fluidity of the blood and inhibit the irritability of the centers in the posterior pituitary.

Idiopathic Anæmia. See Pernicious Anæmia.

Ileo-colitis, Acute. See Enteritis, Acute.

Infantile Convulsions, 1323, 1324,
1325, 1472,

Like epilepsy, tetanus, eclampsia, etc., infantile convulsions are due to the accumulation of wastes, toxins, etc., in the blood. These poisons by exciting violently the vasomotor center provoke intense hyperæmia of the cortex and of the spinal system, the direct cause of the paroxysms. This applies as well to cases due to teething: the accumulation of wastes occurring in the tissues as a result of deficient oxygenation caused by reflex constriction of all arterioles through

the (reflexly) irritated sympathetic center, the most sensitive of the *sensorium commune*.

Treatment: A few whiffs of *amyl nitrite* in teething convulsions suffice to arrest them, in most instances by causing relaxation of the arterioles; *sweet spirits of nitre* to sustain the effect. A *warm bath* to draw the blood to the surface and deplete the hyperæmic centers; the addition of *mustard* to the bath. In severe cases, *apomorphine* hypodermically or *chloral* by enema.

The cause of the convulsions should of course receive attention.

Infantile Diarrhœa, treated in
full 1742

Influenza.

An infectious disease due to the toxin of the bacillus influenza of Pfeiffer, which depresses the functions of the sympathetic center of the posterior pituitary. The arterioles of the entire body being relaxed, there is catarrhal congestion of the respiratory tract, relaxation of the gastrointestinal mucosa, hyperæmia of the cerebro-spinal and muscular systems, etc., with the attending symptoms, according to the area in which the vascular dilatation is most marked. The circulation being slowed in the capillaries, the protective functions are inhibited in the pulmonary and intestinal tracts and the patient is exposed to infection especially by the pneumococcus, which is invariably present in the bronchi.

Treatment: To counteract the depression of the sympathetic center and restore the arterioles to their normal caliber, *acetanilid* or *optum*, preferably the camphorated tincture. To produce the same effect and increase simultaneously the bactericidal and antitoxic properties of the blood, tincture of *belladonna* 5 drops and *potassium iodide* 5 grains every three hours, the former stimulating both the sympathetic center and the test-organ, and the latter the test-organ and the thyroid. *Quinine* also excites the sympathetic center, but only in large doses.

Insolation. See Heat-stroke.

Insomnia, 1258, 1279, 1281, 1323,
1324, 1325.