

light milk food, fish, chicken, and beef juice, if necessary; and the sooner that a good generous diet of fresh meat, eggs, vegetables and fruit can be borne, the better. Fresh air, light, and gentle regular exercise are highly important. Stimulants, as wine or whisky, may in some cases be necessary, but these will be ordered with due care in relation to the possibility of developing a taste for alcoholic beverages. The saccharated carbonate of iron is usually well borne. Freshly-made Bland's pills (R 56)—two or three, thrice daily, after food—is a favourite form of prescribing iron. The tincture of perchloride of iron is highly recommended, care being taken to instruct the patient to watch its action upon the teeth. It should be taken through a glass tube, and the mouth and teeth should be carefully cleansed after each dose. Chemical food is useful, and easily taken. Fellows' and Churchill's syrups of the hypophosphites, and Easton's syrup, are much prescribed. The syrups of the phosphates, and lacto-phosphates of iron and of lime—the latter especially when iron does not agree—are much used. "Ferro-Maleski" is a preparation of iron with a vegetable compound, which has been proved highly serviceable. Denayer's peptonate of iron is useful when the digestion is weak. The combination of iron and arsenic sometimes produces wonderful results (R 1). A purgative at frequent intervals is often required during a course of iron treatment. R 57 may be ordered. In extreme cases of anæmia, Weir Mitchell's massage treatment, with forced feeding, may be necessary. In *purpura* and *scurvy*, turpentine is indicated for the hæmorrhages. The treatment of scorbutic conditions consists of the ingestion of fresh meat and vegetables, and the administration of lime juice. Arsenic may be tried in progressive pernicious anæmia and in Addison's disease. Supra-renal gland preparations are used, with varying benefit, in the latter disease. For pernicious forms of anæmia, an *antiseptic* treatment has been suggested by Hunter. Two grains of β -naphthol are given (in a pill) thrice daily. Good results of this treatment are recorded by Gibson.

CHAPTER XIII.

"CONSTITUTIONAL," AND SOME
GENERAL DISEASES.

Contents.—Gout; *Lithæmia*—Arthritis deformans—Acute and chronic rheumatism—Rachitis—Osteo-malacia—Syphilis—Chronic alcoholism; *Delirium tremens*—Trichinosis—Anthrax—Lead and mercurial poisoning.

Gout.—*Lithæmia*.—Gout may be *acute* or *chronic*. The chief pathological condition is the enlargement of the joints—especially the smaller joints—and the deposition therein of biurate of soda. The bursæ are often affected. A section of the joint shows the articular surface to be covered with an incrustation of white acicular crystals. Ordinary inflammation, thickening, and deformity are the results of this deposit, and the chalk-like accretions (tophi) of biurate of soda are mixed with the inflammatory products. They are often found in the external ear, and generally in or near the helix. Suppuration may take place round the tophi, but never in the joints themselves. The kidneys are frequently cirrhotic (gouty kidney), and the heart hypertrophied.

Gout is a diathetic condition, hereditary or acquired, in which there is accumulation of urates in the blood (urataemia) and deposition of urates within the tissues (uratosi). Normally, uric acid circulates in the blood and is excreted in the urine as a quadriurate. In the gouty, the quadriurates in excess in the blood give rise to the *lithæmic* condition, and the so-called "irregular, latent or suppressed" forms of gout.* In acute gout the re-action of the quadriurates with the sodium carbonate of the blood, or with the tissues rich in sodium salts, produce the more insoluble and stable *biurates* of sodium, which are precipitated within these tissues and act as mechanical irritants—and probably also act as foci for the formation of clots (thrombosis)—(Roberts). During an attack of acute gout the excretion of uric acid in the urine is diminished, and is only increased as the attack subsides. In chronic gouty conditions, the uric acid excreted is below the average (Garrod).

Gouty subjects are liable to eczema, psoriasis, and other skin eruptions. Affections of the eyes—as conjunctivitis, iritis, scleritis, &c.—are common.

* *Garrod's Method of Detecting Uric Acid in the Blood.*—Two drachms of blood serum are put in a large watch-glass and acidified with acetic acid. A linen fibre is placed in the fluid until the evaporation leaves a gelatinous mass. The fibre is then examined with a pocket-lens for the characteristic uric acid crystals.

Gout is markedly hereditary, and it chiefly affects the male descendants, but females suffer more from gout than is generally stated in medical works. Long-continued rich living may produce a gouty state; and certainly in those who have inherited the gouty diathesis a rich dietary is a well known cause of attacks. Chronic lead poisoning is also a cause of gout. Exposure to cold, and excessive fatigue or mental worry, may also excite attacks in the lithæmic.

Symptoms.—The *onset* of acute gout is very sudden, although sometimes there are premonitory symptoms—as indigestion and flatulence, or sleeplessness and irritability, &c. During the early morning hours the patient is awakened by pain in the metatarsophalangeal joint or “ball” of the great toe. Sometimes the pain is in the ankle or instep, or in the knee—especially if it have been previously injured in any way. The pain becomes very intense, and it is described as grinding, boring, and intolerable. He cannot bear the slightest touch, and it is impossible to gain rest for the foot in any position. Soon the parts become dusky red, and the skin becomes shining, swollen, and tense. Slight chills and rigors usher in the feverish state. The temperature rises according to the amount of local disturbance. The parts become oedematous, and ultimately, in the later stages, the skin desquamates.

The pain may moderate in intensity within a few hours; but for the next two or three days the attack is renewed towards evening. The other foot is generally attacked as well. The urine is acid, and deposits copious urates. The case gradually improves during the next eight or ten days if the patient be not a chronic sufferer, in which case the attack may extend over a few months, with frequent exacerbations and improvement. The chronic cases always feel much improved in health after a seizure. After a few attacks the other joints may be the seat of pain, either during an acute seizure or during the chronic course of gout. The small joints of the fingers are especially liable to suffer in this way. They remain red and thickened, and the patient, in severe cases, may hardly ever be entirely free from pain.

Gout is never immediately fatal, but it tends to shorten life. There is liability to cirrhosis of the kidneys and hypertrophy of the heart, with its consequent risk of cerebral hæmorrhage. Deformities are common, and the patient is often much crippled. A single attack of gout may serve as a warning, and with strict regulation of the diet, &c., it may never recur—if the patient be not markedly gouty by inheritance. Patients may remain free from attacks for a year or longer. During the intervals, *lithæmia* may be present; or this condition may exist without the patient ever having an attack of acute gout. Dyspepsia is the common result of this condition. The symptoms of lithæmia consist more or less of those indefinite pains known as “gout in the head,” “gout in the stomach,” &c., with aching pains in the limbs, attacks of gravel, giddiness, “bilious” headaches, and noises in the ears, with sleeplessness and depression. Sometimes lithæmia gives rise to epileptiform convulsions.

Arthritis Deformans.—**Rheumatoid Arthritis.**—The causes

of this disease are still unknown. It occurs most frequently in women, especially when exhausted from frequent child-bearing, or from prolonged lactation. Males may be affected, when debilitated from any cause. The disease is not gout, and neither is it rheumatism as the old name, “rheumatic gout,” would appear to indicate. Rheumatoid arthritis may be *primary*; or *secondary*, to rheumatic fever. Charcot describes three forms:—(a) Heberden's nodes, (b) general progressive form, (c) partial or monarticular form. Kent Spender considers that doubtful cases may be diagnosed earlier, if the joint symptoms be associated with tachycardia, melasma of the face, &c., cold sweating hands, or neuralgic twinges in the limbs. The *primary* forms begin very insidiously. Rheumatoid arthritis is allied to tuberculosis.

The synovial membranes become thickened, and fluid is effused into the joints during the early stages. Later, the interarticular cartilages become ulcerated, and then absorbed, leaving the bare bones in apposition. The bones become thickened and enlarged (eburnation). There is pain and stiffness, with cracking of the joints when movement is attempted or the limb manipulated. Ultimately, the lower limbs are flexed, and the patient is permanently crippled. The wrists are extended, and the fingers are bent to the ulnar side.

The *prognosis* is not always unfavourable, as some cases recover under treatment.

Rheumatism.—**Acute; Chronic; and Gonorrhœal.**—Although acute rheumatic fever resembles an infective disease in its course, as yet, no single or constant specific micro-organism has been found. The symptoms are ushered in by indefinite pains in the limbs (*muscular rheumatism*) with general *malaise*, and perhaps slight sore throat. The diagnosis of “rheumatic cold” is generally made at this stage, and for a couple of days it may be uncertain whether this is to be the sole extent of the rheumatic affection, or whether the acute rheumatic fever is about to develop. Should the latter be the case, the temperature gradually rises, and there may be a feeling of chilliness, or rigors occur from time to time. The pain and swelling are, at first, located to one joint—generally one of the larger ones—and the peculiarity of rheumatism is its liability to assail, suddenly and rapidly, one joint after another. Several joints may be affected at one time, and should the smaller joints suffer—as the knuckles—it is generally *along with* one or more of the larger ones. *Gout*, on the other hand, generally attacks the smaller joints.

In rheumatism the joints are very tender to the touch, and in some cases—*e.g.*, the knee—the effusion of fluid into the joint can very readily be made out. The surrounding veins are not dilated, and generally there is little or no redness. There is often severe sweating, the perspiration having a characteristic sour smell. *Sudamina* may appear as the result of severe sweating. *Erythema multiforme* is a skin affection which may appear during the course of acute rheumatism.

The temperature is generally in relation to the pain and extent of

the articular inflammation, but the pulse is often more rapid than one would expect from the amount of fever. 103° F. is a common temperature. The heart is almost invariably affected in acute rheumatism, and an examination of the chest should be made daily during the course of the disease. Pericarditis and endocarditis are the commonest affections. In children, it is common to have general carditis (*Sturges*). Pleurisy, bronchitis, and sometimes catarrhal pneumonia and œdema of the lungs, are common complications. In some cases—especially in children—the heart may be affected, and there is no pain in the joints. Subcutaneous fibrous growths (*rheumatic nodules*) have been described by Barlow and Warner. They are more frequent in children than in adults. Cheadle considers that they indicate persistent cardiac disease. The appetite is generally good. The urine is scanty, dense, acid, and high coloured, and it deposits urates plentifully. A small quantity of albumen is often present.

Hyperpyrexia may supervene in a case of acute rheumatism. The temperature may rise as high as 107° to 110° F. within a few hours. The symptoms associated with such a condition are the cessation of pain and sweating, followed soon by cerebral symptoms. Drowsiness passing into unconsciousness, or acute maniacal excitement with convulsions, may usher in the fatal termination of a case.

The *causes* of acute rheumatism—in addition to hereditary predisposition—are exposure to cold and damp, and severe muscular exertion. It often follows scarlet fever, during the desquamative stage. Sleeping in a damp bed is a very common cause.

The *course and duration* of acute rheumatism varies with the effects of treatment. It is not uncommon for cases to run on for a month or longer. They are very seldom fatal. Many cases are cut short in their course. Acute rheumatism is apt to recur within a few years. Some few cases become chronic and a joint may remain permanently injured (ankylosis). There is never *purulent* disorganisation of a joint.

The chronic form of rheumatism begins very slowly, with less pain, and no fever. It is a disease of middle life, occurring in those who have inherited the rheumatic *diathesis*, and it is often a natural consequence of advancing years, especially in those who have been exposed much to cold and wet, through life. In the former class the deformities from contraction of the tendons and enlargement of the joints, are often very severe.

Gonorrhœal rheumatism is the result of the specific systemic infection by the gonorrhœal virus. An important symptom is the *fixed* character of the pain, limited sometimes to one joint—generally the knee, but often affecting many joints.

The differential diagnosis of gout from rheumatism, arthritis deformans, and pyæmia is important. In gout the small joints are affected; the attack is sudden; the skin desquamates; and the fever is in relation to the local inflammation. The opposite conditions are present in acute rheumatism. *Arthritis deformans* occurs amongst the poor; there are no paroxysms, and the changes are very

gradual and symmetrical, without deposition of urate of soda. In *pyæmia* the severe constitutional disturbance, rigors and dry skin; the joints showing a deeper blue-red; the presence of rashes and abscesses, and the history, will indicate the true nature of the case. In *acute* rheumatism, effusion should be made out in at least one joint, before expressing a positive opinion. In the *chronic* forms, locomotor ataxia, spinal disease, and such diseases as are associated with pains in the limbs—as scorbutus, syphilis, hysteria, sciatica, &c.—should be noted and excluded. The pains in such cases are not always limited to the joints.

The Treatment of Gout, Rheumatism, and Arthritis Deformans.—*Gout*.—For the acute seizure morphia may be used hypodermically—as much as half a grain being injected into the arm. The sooner that colchicum is given the better. \mathcal{R} 58 should be at once prescribed. Sodium salts should be avoided. The inflamed parts may be covered with lint soaked in a lotion composed of atropia and morphia (\mathcal{R} 59), and covered over with gutta-percha tissue. *Cold* applications must never be used. The limb should be raised and supported upon a pillow. However red and inflamed the toe may appear, leeches ought never to be used. The diet should be of the lightest description, consisting of milk and arrowroot, tapioca, &c. Should the case be seen early, and the attack be the result of indulgence in the pleasures of the table, a prompt emetic may be of great value. Should this be contra-indicated, a purgative may be used—salts or “black draught” being the best. When the acute symptoms have subsided the treatment should still be continued. The diet must be carefully regulated, and it should consist of chicken, fish, beef tea, and soups. Milk, and light milk-puddings may be allowed. All sweet meats and wines must be cut off; but, if necessary, a small quantity of whisky with potash water may be taken. For the lithæmic state, the same precautions as to diet are necessary. Water, or lithia water may be freely drunk. The chronic cases require similar care and treatment. Guaiacum and iodide of potassium are additional remedies. The clothing should be warm, and flannel should be worn next the skin. Walking exercise is to be encouraged. The chief watering places, and baths, to which gouty patients may resort are Contrexéville, Aix-les-Bains, Gastein, Strathpeffer, Bath and Buxton. The mineral waters should never be taken during an acute attack, or if there should be kidney disease present.

Rheumatism.—In the treatment of *acute* rheumatism, all remedies have given place to salicylate of soda (salicylic acid or salicin). The only bad effect likely to follow its use is the depression which results from the long-continued doses. This should be watched and counteracted by stimulants, or the remedy changed for a time. Nausea and vomiting is sometimes induced; and deafness, giddiness, and ringing in the ears are very common, with the use of the salicylates. The bicarbonate of potash may then be used instead. The dose of salicylate of soda should be twenty grains every two hours during

the first day, and then it should be reduced to *ten* grains (R 60). The smallest quantity which will subdue the pains is the point one should desire to maintain; and if this can be done without producing depression, no other remedy need be used. The diet should be light and digestible, consisting largely of beef tea and milk. Alkaline drinks, milk and potash, &c., should be allowed. The joints should be enveloped in flannel or cotton wadding, and the patient should be kept between blankets. The *chronic* forms of rheumatism may sometimes be relieved by salicylate of soda when the attack appears to be somewhat acute in character. Iodide of potassium is highly useful, whether the rheumatism be due to syphilis or not. Bicarbonate of potash is also good. In many cases arsenic, iron, and cod-liver oil are the best remedies. Arthritis deformans is similarly treated—*i.e.*, with arsenic, iron, and cod-liver oil; and a full generous diet is allowed. Malt liquors—especially porter—are indicated. The baths and watering places for chronic rheumatic cases are Strathpeffer and Harrogate, Buxton, Bath, Wiesbaden, Aix-les-Bains, Pyrmont, &c., &c. The baths should not be taken by those rheumatic patients whose hearts are affected. Galvanism is sometimes used; and a course of *massage* treatment may be highly useful for chronic rheumatism. For treatment of the heart complications see Heart Diseases.

Hypertyrexia in rheumatism is treated by cold. The patient should first be placed in a bath comfortably tepid (90° to 110° Fahr.), and cold water added gradually. Ice-cold water may be applied to the head and spine in severe cases. The bath is continued or repeated until the fever is reduced. The patient should be removed from the bath when his temperature falls to 102° Fahr.

Rachitis.—Rickets is a disease of childhood, the symptoms of which begin to appear in the first or second year. It occurs chiefly as the result of a faulty diet (deficiency of *fat* and proteids and sometimes of the earthy phosphates). Bad hygienic conditions favour the development of the disease; but the children of debilitated parents may suffer from rickets, even with good surroundings. Very frequently rickets is associated with *scurvy*. In rachitis the long bones become thickened at their epiphysial extremities. The flat bones are thickened. The cartilaginous parts increase with the deposition of the earthy principles which render the bones hard and firm. The growth is arrested, and deformities result from the weight of the body, or from traction of the muscles. The legs are bent, the spine is curved, and the thorax projects (pigeon breast, &c.). Lesions of other organs are usually associated with rickets, and hence *tabes mesenterica*, chronic diarrhoea, enlarged spleen, &c.

The symptoms usually begin about the fourth to the eighth month, but the early course is not characteristic of rickets. There is diarrhoea and vomiting, with great emaciation. The stools are light in colour, acid, and offensive. The appetite is fitful, and it is often voracious; sometimes the thirst is intense. The child is listless and peevish, and prefers to sit or lie quietly all day. There is

tenderness of the whole body (probably due to associated scurvy), and great muscular debility. At a later stage, profuse perspiration of the head is common. The limbs feel hot, and they are evidently painful. The urine deposits abundant lime salts. The child's face looks older and pinched, and the anterior fontanelle remains open and does not diminish in size.

The swelling at the end of the long bones may now be distinguished, and the legs are seen to be bending. The spine begins to curve, and the sternum is in process of being projected forwards. The pelvis is also deformed. Dentition is absent, or much delayed, or the teeth may be decayed and imperfect. The symptoms of the gastro-intestinal disorders increase, the abdomen enlarges, and the emaciation and *anæmia* become more marked.

The *course* and *duration* of rickets vary much. It extends from a few months to a year or much longer. The cases which occur early are more severe, and if recovery take place, the deformities are more marked. Those cases which occur during the period of the second dentition usually recover without any marked permanent changes in the bones.

The common complications of rachitis are bronchial catarrh and pneumonia, capillary bronchitis, and pleurisy with effusion. *Laryngismus stridulus* is common in rachitic children, and sometimes tetany is present (with "anodal" contraction) chiefly of the hands and feet. Protracted diarrhoea and waxy disease of the intestines, chronic hydrocephalus—sometimes with convulsions—and enlarged lymphatic glands, are all common conditions associated with the rachitis. Four forms are described *viz.*:—foetal rickets, achondroplasia (foetal cretinism) syphilitic rickets, and scurvy rickets. The last is of practical importance as it is frequent, and the symptoms of rickets are associated with those of scurvy—*i.e.*, hæmorrhages, spongy gums, periosteal swellings, with great tenderness in the limbs.

Osteo-malacia, or **Mollities ossium**, is a rare chronic disease of the bones which occurs in adults. It affects females more than males. The earthy elements are absorbed, and the bones become softened. Deformities of the spine and pelvis, &c., result. The *symptoms* consist of burning pains in the bones followed by deformities. The patient "shrinks" together in consequence of the bony framework becoming absorbed. Fractures are easy and common, and the bones do not unite. The prognosis is always unfavourable. Death usually takes place from some intercurrent affection. The causes are unknown.

The treatment of rickets should consist of general and hygienic remedies. Good air, exercise, bathing, and a generous diet, are all necessary. It is important that the diet as regards *proteid* and *fat*—especially the latter—should be in sufficient quantity and in proper relation. (See Appendix.) The lime preparations and cod-liver oil are indicated. Pepsin and bismuth are useful for diarrhoea and vomiting. It may be necessary to use R 49. The saccharated carbonate of iron is useful. If infants require to be removed from the breast, the best substitute is cow's milk diluted to one-third or

one-fourth with lime water. Syphilitic and scurvy forms require anti-syphilitic and anti-scorbutic remedies.

Syphilis.—The *primary* stage of syphilis comes under the notice of the surgeon. The *secondary* and *tertiary* symptoms come under the care of the physician. Some time after the primary disease—a period varying from six weeks to six months or a year—the secondary symptoms appear. There is generally, for a few days, fever of an intermittent type, the temperature sometimes rising as high as 104° F., and falling with the appearance of a rash. The patient generally complains of pains in the limbs and joints (rheumatism), and in the back. Headaches are common at night. Sometimes there is no fever, and the syphilitic rashes appear, without any apparent disturbance of the health, and without attracting much attention. The syphilitic ulceration of the fauces may also be so slight, that the patient may be unaware of the condition. In most cases, however, a sore throat is complained of, and the rash is copious enough to excite both attention and alarm.

The syphilides which appear are “copper-coloured,” and very varied in character (polymorphic). They do not set up “itching,” and they assume a semi-circular shape generally. These eruptions are described in works on the skin, and are figured in all skin atlases. They are *macular*, *follicular*, *papular*, *pustular*, and *squamous*, &c. There is no absolute difference between the syphilides of the secondary and tertiary stages; but it may be said that the *early* syphilitic rashes are bilaterally symmetrical, superficial in character, more numerous, and they have little tendency to ulcerate or leave cicatrices. The tertiary syphilides are non-symmetrical, tend to run together, and they are fewer, and often leave cicatrices. They also affect the deeper structures.

The syphilitic sore throat shows congestive changes involving the tonsils and pharynx. The mucous surfaces are unhealthy looking, and yellow ulcers with sharply defined red borders are commonly present. Milk-white spots—often compared with the effects of nitrate of silver applied to the mucous membrane—are often found on the inside of the cheeks, lips, and soft palate. They may be round or oval in shape, or indefinite. *Iritis* is a common effect of syphilis. According to Hutchison, it does not appear after the sixth month. The patient may complain of dimness of vision, and this should suggest an ophthalmoscopic examination for *retinitis*. The ophthalmoscope may reveal a *hazy* appearance about the fundus, and the disc red and swollen, with an indistinct margin. The hair falls out, not so much in patches, but generally. The lymphatic glands enlarge. The glands at the elbow and in the occipital regions are frequently found to be enlarged, upon palpation. The duration of the secondary stage is about three or four months.

The *tertiary* symptoms are numerous; but to enter into details would be but to repeat what has been discussed under sections throughout this work. The syphilitic cachexia may be more or less marked. Eruptions appear on the head and elsewhere. The palms

of the hands and the soles of the feet are often affected by squamous syphilides. The nails may be rough and thick. Gummatous formations and nodes may appear on the bones of the skull, sternum, ribs, tibia, &c., and in the organs of the body. The testicles should always be examined when searching for gummatous formations. Sometimes there is albuminuria. Neuralgia is often due to syphilis, and it is characterised by being worse at night. Ptosis may be a symptom of syphilis. Ulcers, periostitis, and suppuration are common; and so are cerebral and meningeal tumours, syphilis of the cerebral arteries, aortic valves, brain and spinal cord; chronic syphilitic laryngitis and stenosis of the bronchi or œsophagus; phthisis; hepatic gummata and cirrhosis; ulcerations of mucous membranes, &c. In the female there is often chronic uterine disease and ulceration of the womb. Miscarriages and abortions are very common. The ulcerations of the throat may extend or involve the bones of the hard palate. The red blood-corpuscles are diminished in number, and the white corpuscles are increased in syphilis. The influence of the microbic infection on the nervous system is very great and it is of the nature of a specific exudative inflammation.

Congenital syphilis is characterised by the symptoms of catarrh of the nasal mucous membrane (“snuffles”) about six weeks after birth. At the same time, eruptions appear, chiefly about the nates at first, and often there are condylomata about the mouth and anus. Stomatitis is common, and small ulcers are frequent about the mouth and tongue. The child appears pale, asthenic, and emaciated. The bowels are apt to be loose, and the stools foul smelling. The face is pinched and old-looking.

Should the child recover under treatment, symptoms of the syphilitic constitution are apt to manifest themselves about the period of the second dentition. The bridge of the nose sinks in, and the teeth may be peg-shaped and irregular, with one or more of the evidences of syphilis described above. The hair is often scanty, and the nails are rough and split easily. The bones may have nodular growths upon them, and the forehead is often prominent looking, and suggestive of hydrocephalus.

The cause of syphilis, apart from its being a hereditary disease, is the direct inoculation of the syphilitic virus. Impure sexual intercourse is almost invariably the manner in which the poison is conveyed; but it must be remembered that *sometimes* syphilis may arise in other ways. Any abraded surface—mucous membrane or skin—may absorb the poison; hence unclean catheters, discharges, blowing tubes used by workmen in turn, and tobacco pipes used by different persons—are examples of methods by which persons may be innocently inoculated. A kiss may transmit the poison to another. It is sometimes conveyed by vaccine lymph. During the primary and secondary stages, the secretions from ulcers and syphilitic sores are capable of inoculating the healthy; but those of the tertiary period are not directly contagious.

The prognosis of syphilis must be guarded. Most cases under treatment recover; but many cases end in permanent ill-health or

disablement. Sometimes severe cases end fatally, and this is often the case with infants. With weakly adults—especially when markedly strumous—the consequences of acquiring syphilis are often disastrous, as the ulcerations and degenerative changes are in them very serious, and they often lead to a fatal result.

The **Treatment** of congenital syphilis consists of giving the child very minute doses of grey powder (R 61). The eruption may be treated with zinc, bismuth, starch, and sometimes calomel dusting powders. Ordinary hygienic care and "hand nursing" are required. Cow's milk—diluted one-third or one-fourth—and Mellin's or Nestlé's food may be used.

For adults, iodide of potassium is prescribed, and should improve not begin very shortly, small doses of mercury should be added (R 62). Mercury should not be given to the weakly or strumous. Iron and cod-liver oil are useful adjuncts, and should always be given to the strumous instead of mercury. *Inunction and fumigation* of mercurials are severer methods. Never produce salivation if possible. Opiates and bromides may be given for pain and sleeplessness. The local treatment of ulcers, &c., consists in the use of boric lotion and ointment, mercurial applications and "black wash." In *iritis* a little calomel may be dusted into the eye. Chlorate of potash is the best gargle for syphilitic sore throats. Marriage should not be allowed until two years after the disappearance of all the symptoms.

Chronic Alcoholism—Delirium Tremens.—The pathological changes in chronic alcoholism are those of congestion and catarrh of the mucous membranes generally. The heart and liver are often fatty; and the latter, with the kidneys, may be cirrhotic. The brain neuroglia undergoes thickening, and the vessels tend to become atheromatous. The brain membranes are often thickened, and pachymeningitis has been found in some cases; and a serous meningitis is described—"wet brain" of hard drinkers.

The **symptoms** of chronic alcoholism consist of impairment of the intellectual powers and perversion of the moral sense, with certain physical changes which are characteristic. The former state is manifested by loss of memory and judgment. Ordinary duties are neglected, and in conversation there is incoherence and rambling. A peculiarly suave and unctuous manner seems to be common. In others a morbid irritability is often present. The spirits are often dejected. There is indifference to all the family ties, and the man has no care for the welfare of wife or child. He is frequently attacked with gastric symptoms. The appetite is lost, and the craving for stimulants increases. A state approaching imbecility is the ultimate result, and general paralysis is a common termination of chronic alcoholism. Two types are described; the pale, flabby, and fat—and the purple-faced, "pimpled," and bloated conditions. In the fully developed cases there is often numbness and tingling in the limbs, with tremors affecting the whole body. Disorders of digestion increase, hallucinations occur at night, and epileptiform fits are frequent. Often there is hæmatemesis, and hæmorrhoids which bleed freely. Later still,

with the development of kidney disease or cirrhosis of the liver, there is dropsical effusion into the limbs or abdomen (ascites). Heart disease may be present from calcareous and atheromatous changes in the valves.

In **delirium tremens** there is hyperæmia of the brain, with increased effusion into the ventricles. The brain substance appears cedematous. Delirium tremens is more apt to occur in those who have indulged in alcoholic stimulants without taking food.

The **symptoms** consist chiefly of continuous trembling, sleeplessness, and noisy delirium. Characteristic hallucinations and illusions are present. The patient sees all sorts of animals, spectres, demons, and monsters, and he appears to be in a state of "horror," or fright. Under a hallucination, he may be dangerous to himself and to others. He is often noisy and furious. There is fever and sweating, with the usual accompaniments of such a state. The **course** is usually acute; and recovery is the rule under treatment, provided no dangerous complication supervene. Pneumonia, cerebral hæmorrhage, and meningitis are common. The pneumonia—chiefly affecting the upper lobe of the lung—may be present from the beginning, and it may be the actual cause of the delirium. A case may extend from two or three days to ten days. Death may take place from failure of the heart's action.

The **treatment** of chronic alcoholism is not very encouraging. The gastric symptoms are treated as in chronic gastric catarrh. Arsenic may be tried, and general tonics, as iron and cod-liver oil. Total abstinence from all alcohol must be enjoined, and, if possible, enforced. A suitable diet must be arranged. In **delirium tremens** bromide of potassium is given in large doses, and plenty of beef tea. The diet is important, and it should be strengthened very gradually. The patient must, of course, be protected during the acute stage.

Trichinosis.—This parasitic disease is due to the presence of the *Trichina spiralis*, so frequently found in pork. There are three stages described. The first or *intestinal* stage follows the ingestion of the sexually mature worm. A microscopic examination of the fæces may reveal the presence of the worms. The symptoms are vomiting and diarrhœa. The second, or stage of *migration*, begins within a week, when breeding may be said to be fairly started. The immature trichinæ bore their way through the tissues of the body until they reach the muscles, where they become encapsuled—which constitutes the third stage. During the second stage, the symptoms consist of rheumatic-like soreness of the muscles—often with great tenderness to the touch—œdema of the eyelids, rigors, fever, and perspirations. Bronchitis, pleurisy, or pneumonia may complicate a case. The third stage is the stage of *encapsulation*, in which the symptoms occurring in the second stage gradually subside. The "harpoon" may be used in doubtful cases. Typhoid fever, inflammation of the bowels, and rheumatism have to be excluded in the diagnosis.

The **treatment** is to give large quantities of glycerine and water—one part of glycerine to two parts of water—in the early stages.

Carbolic acid and tincture of iodine are also useful. As the disease arises from eating raw meat (ham and sausages), this practice should be discontinued. Cooking destroys the trichinæ.

Anthrax, or Wool-sorter's Disease.—There are several forms of this disease; but they are all due to a single microzyme—the *Bacillus anthracis*. The most common form is *Malignant Pustule* or *Charbon*. It consists of the development of a vesicle upon a hard base. This may occur on any exposed part, and it is produced by the inoculation of a slight sore or scratch. After a short period of incubation, there is burning pain in the sore, and a papule develops which soon becomes vesicular, ruptures, and dries up, leaving a scab. The base becomes indurated, and œdema soon spreads up the arm. The lymphatics and glands are affected. After a few hours there follow severe pyrexia, with delirium and prostration, diarrhœa, sweating, acute pains in the limbs, and sometimes convulsions. Death results from the pyæmia. The other forms affect the gastro-intestinal mucous membrane, and the thoracic viscera, respectively.

The early **treatment** of the first and commonest form consists of destroying the pustule with caustics. The other forms and the later stage of the malignant pustule require antipyretics, and the maintenance of the strength by a generous diet and stimulants. Some cases recover.

Two forms of chronic poisoning often come before the physician in practice—viz., poisoning by **lead** and **mercury**. The former occurs in painters, plumbers, glassmakers, shotmakers, typefounders, &c. It may, in others, be the result of contamination of the drinking water by lead. "Aërated waters" are also a source of the poison. Sometimes lead is found in coarse sugar, and in snuff. The symptoms are, viz.:—colic pains, often mild in character, but persisting over long periods; constipation; a blue line on the gums; and paralysis of the limbs. The line on the gums consists at first of a row of black dots, and treatment by iodide of potassium increases the blue colour after a few days. The blue line is caused by the deposit of sulphuret of lead, and it only seems to arise in those who do not pay particular attention to the teeth. It is the presence of tartar that sets up the decomposition. The paralysis may affect the whole body; but more generally it is the upper limbs which are paralysed, and generally one limb more than another. The extensors and supinators of the hand are powerless and wasted, and hence the "dropped wrist" of lead paralysis. It is still doubtful whether the disease is central or local. In some cases a degeneration of the anterior horns of grey matter has been found. Alterations in the muscles suggest some pathological change in the nerve endings. Gout is very often associated with lead poisoning; and the patient becomes anæmic and cachectic. Sometimes *tremors* are present.

In the diagnosis, *progressive muscular atrophy* has to be noted. The most striking difference is the absence of a re-action to

faradic electricity, in lead paralysis, and the abnormal sensitiveness to galvanism which is present.

The **treatment** consists of iodide of potassium in large doses. Sulphate of magnesia is good for the constipation. Castor oil and laudanum may be used. Galvanism is useful for the paralysis. Workmen exposed to the poison should be instructed to drink sulphuric acid lemonade, and to be particularly careful in washing their hands, &c., before eating.

In poisoning by **mercury** the characteristic symptom is the *tremors*. They are general, and are worse under the influence of excitement, or when voluntary motion is attempted. Salivation, ulceration of the gums, and anæmia may all be present. The speech is slow and jerky, and the memory is impaired. Cerebral symptoms, or epilepsy may supervene. Poisoning by mercury occurs in water-gilders and workers in quicksilver. The **treatment** consists of iodide of potassium. Bromides, and hyoscyamine, &c., may be used to control the trembling.