

water and soap, or castor oil. When impacted in the cæcum care must be taken not to interfere too actively or too soon (see *Perityphlitis*). Saline laxatives are best—especially Epsom salts. Electricity should be tried when these remedies fail. The surgical treatment of obstruction is a highly important question to decide—an operation offering the only hope of relief.

**Ulcers of the Intestines.**—The duodenal ulcer has already been mentioned with gastric ulcer. In addition to the tubercular ulcers which are associated with phthisis, the cæcum, appendix vermiformis, and rectum, are often attacked with ulceration. The gastric and duodenal ulcers are generally the result of thrombosis and embolism, and in the case of the duodenal ulcers they are sometimes the result of burns of the skin; but in ulcers of the cæcum, appendix vermiformis, and rectum, *direct irritation*, by solid fæces or foreign bodies, is the commonest cause. Perforation and peritonitis may result from these (v. *Perityphlitis*). Rectal ulcers are treated locally, and they belong to the domain of surgery. The chief reason for noting these ulcers here, is to keep before the mind of the practical physician the fact that an obscure ulcer of the bowel may be a source of blood-poisoning (septicæmia).

**Cancer of the Intestines.**—The cæcum, flexures of the colon, and, most commonly, the rectum—are the parts liable to be affected. The symptoms are fixed dull pains, with frequently sharp attacks of darting paroxysmal pain. The cachexia gradually develops, emaciation follows, and the presence of a tumour completes the diagnosis. In the rectum cancer excites severe burning pain, with *tenesmus*. The stools may indicate a narrowing of the bowel, and later they contain mucus and blood. The hæmorrhage is often severe. The prognosis is entirely unfavourable. The average duration is about a year; but secondary complications—as perforation—may terminate a case earlier. The treatment can only be palliative—consisting of easily digested food, and morphia for the pain. Large doses of charcoal, by the mouth, are useful to control the intense fætor of these cases.

**Intestinal Parasites. Cestoda (Tape Worms).**—*Tænia solium*; *T. saginata*. *Bothriocephalus latus*.—The *tænia solium* is derived from embryos (cysticercus cellulosus) contained in pork, while the *tænia saginata* is derived from embryos in beef. The proglottides in the former are thinner, softer, and more transparent, and the lateral branches of the uterus are fewer in number. The head or scolex of the tænia has a rostellum, a crown of hooks, and suckers. They infect the small intestine and are usually solitary. The *Bothriocephalus latus* is larger than the *T. solium*, and its segments are not detached at maturity.

The symptoms connected with tape worms vary much. Colicky pains are very frequent. A large appetite associated with emaciation, palpitation, itching at the nose and anus, and often nervous phenomena—as choreic movements, epileptiform attacks, impaired vision, &c.—are more or less common. Sometimes, however, there are no symptoms, and the general health of the patient seems good. Most frequently, the passage of segments, *per anum*, is the first and only indication of the presence of a tape worm.

The treatment consists of a preparatory course of light diet and semi-starvation for a day, with a large dose of castor-oil administered at night. In the morning the extract of male fern, or a decoction of pomegranate, is given. If the bowels do not act, a second dose of castor-oil can be given. The stools should be kept and a search made for the head. If not passed, the segments develop again within three months.

**Nematoda. Ascarides lumbricoides (Round Worms).**—These infest the small intestine. They may be solitary, but usually there are two or three, and sometimes they exist in large numbers. They are propagated by drinking water, the ova having strong envelopes which resist extreme temperatures both of heat and cold. The worm is cylindrical in shape, tapering at both ends, the cephalic end being slightly larger. The female (which is more commonly met with) is fifteen inches long; the male about ten inches. They are brown-yellow in colour.

The general symptoms are the same as in the preceding group—as colicky pains, capricious appetite, nausea, and vomiting, itching of the nose and anus, choreic and hysterical seizures, and grinding of the teeth at night, &c.

The diagnosis can only be conjectural, unless a worm be passed—or vomited, as sometimes (rarely) is the case. Obstruction of the bowels may arise from a bundle of worms.

The treatment is to prepare the patient as in the treatment of tape worms; then to give *santonin*, in doses according to the age. The santonin should be administered in castor oil; and it should be noted that its administration often affects the vision—everything appearing yellow to the patient.

**Oxyurides vermiculares (Thread worms).**—These are small, the female being about half an inch in length, and the male less. They are white, and resemble fragments of sewing-cotton. They infest the rectum chiefly, and sometimes the vagina, and they are always in great numbers when present at all. Children are most liable. The most characteristic symptom is the itching at the anus, and sometimes excitation of the genital organs. An offensive vaginal discharge is sometimes produced by thread worms.

The treatment consists of the administration of *santonin*, and the rectal (and vaginal) injection of strong infusions of quassia. The parts should be sponged with weak carbolic lotion. Iron (Syrupus Ferri Iodidi) should be prescribed to improve the general condition, which is generally low.

**Peritonitis.**—Inflammation of the peritoneum is to be regarded as a septic process which follows any lowered vitality of, or injury to, that membrane. The colon bacilli (*B. coli communis*), normally present in the intestine, only assume virulent powers when the endothelium becomes incapable of preventing their migration—as in hernia, intestinal obstructions, appendicitis, ulcerations of the bowel, enteritis, cancerous growths, &c. Other microbes may be present in these forms of peritonitis, as in those where the infective processes are of external origin—the streptococci being the commonest found.

*Tubercular* peritonitis is, of course, associated with its own peculiar bacillus. The rapidly fatal cases of acute peritonitis seem to die of "poisoning," and in such the pathological conditions found are sometimes insignificant in relation to the intensity of the symptoms. It is probable that *all* cases of peritonitis are due to infective processes; but some are still "undetermined" or "doubtful," as the so-called *idiopathic* form due to "chill," peritonitis associated with eruptive fevers, erysipelas, nephritis, rheumatism, &c. In the *chronic* forms of peritonitis, it is more important to classify them *primary* or *secondary*, *general* or *local*, as the causation is often obscure. In chronic general peritonitis the liver or spleen may be "encapsuled" with lymph—very frequently in cases associated with granular kidneys, and sometimes with syphilis, gout, alcoholism, &c. (*Hale White*). The commonest sites of the *local*, are the pelvis, cæcum, and appendix, pylorus, liver, and spleen.

In *acute* peritonitis there is first hyperæmia, with minute extravasations, and dryness of the membrane. The inflammation may be general or local. Soon, a thin adhesive exudation is poured out which agglutinates the neighbouring surfaces. This becomes firmly adhesive if the endothelium proliferate, and connective tissue is formed from the new cellular elements. If the fibrin deposit be much increased, there is a thick coating formed, and a serous fluid is poured out. The swelling and hyperæmia extend to the sub-peritoneal connective tissue and muscular layer. The quantity of fluid poured out may range from a few ounces to gallons, and in the latter case the diaphragm is pushed up and the thoracic organs displaced. The effusion may be *hæmorrhagic*. Sometimes it is purulent, and this is always the case when peritonitis is secondary—the result of a perforation. Subsequently the adhesions contract, producing deformities, and often these dangerously interfere with the functions of the abdominal organs.

In the *chronic* form of peritonitis the changes are similar, but there is often little or no fluid exudation. The intestines are matted together, and the peritoneal cavity may be subdivided into smaller cavities. *Tubercular* deposit is common, and it is often a secondary consequence of tubercular ulceration of the bowel, coincident with phthisis. Abscess formation is common in the encysted chronic peritoneal inflammations, those above the umbilicus tending to dissect upwards, and those below taking a course along the femoral vessels. *Fistulæ* may be established. The hepatic duct or portal vein may be compressed.

The causes of peritonitis are intense cold, and blows; more commonly, it arises from extension of inflammation from the stomach, intestines, bladder, pelvic organs, &c.; or it is a result of perforation. It occurs also in the course of fevers, pyæmia, albuminuria, &c.

The symptoms of acute peritonitis begin with severe and continuous pain in the abdomen, accompanied by fever—in those cases which are attributed to "chill." When peritonitis is caused by extension of inflammation from neighbouring organs, it is usually announced by the marked increase of pain and fever. When it is

the result of appendicitis, obstruction, or perforation, the onset of pain is sudden and very violent. Fever is not an early symptom in the latter cases. In all cases, peritonitis is soon associated with flatulent distention of the abdomen. The pain is so intense that the patient cannot bear to be touched, and he lies with his knees drawn up, to relieve the abdominal tension. Paresis of the bowel causes constipation. Sometimes diarrhoea is present, however—the bowel suffering from secondary irritation. The abdomen is tympanitic, especially in the lines of the colon, but there is dulness in the flanks when there is sufficient effusion of fluid. The liver dulness may disappear. The tongue becomes quickly coated with thick, white fur, and there is much thirst. *Vomiting* is a specially marked symptom in all forms of peritonitis, and very often there is hiccough. There is rapid failure of the strength. The pulse is small and wiry—the frequency often being 120 to 140 beats in the minute. The fever is remittent in type, 103° to 104° Fahr. being common. When collapse occurs, the temperature falls and the pulse may rise to 150 or 200 beats in the minute. When the symptoms of septic poisoning supervene, the abdominal turgidity and tenderness disappear, and the patient lies collapsed with eyes and cheeks sunken, the face pinched, the breath offensive, and gradual increase of the coma before death.

In the *chronic* form of peritonitis the symptoms begin insidiously. Colic pains, indigestion, and sometimes vomiting, with loss of flesh and strength, are early indications. The abdomen gradually enlarges, by the accumulation of gas and serous fluid. In very chronic cases the abdomen is often retracted, and there is matting of the intestines, and pressure upon the iliac veins which may produce œdema of the lower limbs. Well-marked ascites is seldom made out. *Tubercular* peritonitis may arise along with tubercular disease elsewhere, or it may follow a simple chronic peritonitis.

The course of a severe *acute* peritonitis is rapid. When it is the result of perforation, death may take place within a few hours. When a simple primary disease, death may not take place for a week. The more favourable forms are those which arise from extension of inflammation from the neighbouring organs. Local inflammations are less serious. An acute attack may become chronic.

The prognosis should always be guarded; and in acute general peritonitis it is most unfavourable. Lung complications are common.

The treatment of acute peritonitis consists in the free use of morphia, either by the mouth or hypodermically. When the inflammation is local, leeches may be used. An ice bag is best at the very first, but hot turpentine stupes, or poultices, are soon required, and they are more grateful to the patient. If there be much fever, quinine (10 grains, and repeat in two hours), or antipyrin (15 grains every three or four hours), should be given. The diet should consist of milk and beef tea chiefly, but the less food given by the mouth the better. Rectal injections of peptonised beef-tea are required. If the thirst is intense, the patient may be allowed water;

even if vomited, it seems to give relief. Warm water injections are best for continuous thirst. The old *aperient* treatment has been reviewed, but it is only suitable in certain early cases of "meteorism" preceding peritonitis. Surgical procedures may be indicated. The chronic forms require local applications—as fly-blisters, mustard, and tincture of iodine; or inunction with oleatum hydrargyri. Iodide of potassium with syrup of iodide of iron, may be prescribed during convalescence (R 30).

**Perityphlitis (Diseases of the Appendix vermiformis: Appendicitis).**—It is convenient, for clinical purposes, to consider this group of diseases under the heading *Perityphlitis*, although inflammation of the peritoneum in the neighbourhood of the cæcum and appendix is a secondary consequence of affections in these regions. Perityphlitis may be the result of foreign bodies, or of hardened faecal accumulations, lodging in the cæcum and setting up ulcerations. The ulcerations, however, may be due to tuberculosis, typhoid, dysentery, &c.—the stercoral (faecal) ulcer being the commonest (*Treves*). All these conditions are rare as compared with the frequency with which the disease originates in the appendix. Small foreign bodies or catarrhal concretions may lodge in the appendix, and set up inflammation, ulceration, and perityphlitis. The catarrh may extend from the cæcum and the swelling of the mucous membrane at the mouth of the appendix (the result of irritation), or the blocking of the appendix by faecal accumulations in the cæcum, causes retention of the secretions within the appendix, and a catarrhal appendicitis is induced which leads to secondary inflammation (perityphlitis) or, sometimes, to ulceration and perforation. An abscess may be present without actual perforation. A rare form of disease of the appendix (and cæcum) due to actinomycosis has been described; and gangrene is not uncommon, and is probably, in all cases due to infection by pyogenic micro-organisms. The peritonitis may be local or general, purulent or non-purulent. A localised abscess may be formed. The causation of perityphlitis has already been indicated (see *Peritonitis*)—the colon bacilli being almost always found, and very frequently along with other organisms (*Streptococcus*, *Staphylococcus*, *Pneumococcus*).

The symptoms of perityphlitis may be acute or chronic. In the former, pain is felt in the right iliac region. There is tenderness upon pressure, and the patient generally lies upon his right side with the right lower limb flexed. Constipation is usual, but often there is diarrhoea. There is general *malaise*, fever, nausea, and sometimes vomiting. Palpation may reveal a prominence over the cæcum, if there be any impaction of faeces; but when perityphlitis is considerable, a hard brawny swelling may readily be made out just above the *crista ili*. The tumour may become circumscribed, or the effusion may remain diffused, with general enlargement of the abdomen, &c. A tumour may sometimes be felt *per rectum*. It specially tends to suppuration, and this may be indicated by rigors, and the usual constitutional symptoms; but the presence of pus is

often doubtful. Pus may be formed soon, or it may be delayed. A second rise of temperature is significant.

When the inflammation involves the appendix vermiformis, the pain and tenderness is much lower down. M<sup>r</sup> Burney states that in cases of appendicitis the tenderness is most marked at a point lying two inches from the right anterior superior iliac spine in a line drawn from that point to the umbilicus. The significance of this sign is that usually this point corresponds with the position of the base of the appendix. Appendicitis may or may not be associated with inflammation of the cæcum. There is usually a history of constipation, with "dyspeptic" symptoms. When the appendix is affected the pain is very acute, and there is no impaction or interference with the functions of the bowel—but general peritonitis is a more common sequel. As the case advances, the face becomes pinched and the eyes sunken. The pulse is small and rapid, and the heart is weak.

In the simple and uncomplicated chronic form of perityphlitis, the symptoms are those of an intestinal catarrh. Palpation may reveal tenderness and a "doughy feel" over the cæcum, with gurgling upon pressure. Flatulent movements, and pain, are frequently referred by the patient to the cæcal region, and the pain is aggravated by constipation. In the mild forms the symptoms may all disappear in a week, but relapses are occasional. The severe forms take longer; and in cases of perforation the symptoms are intense, and the result usually fatal. Sometimes the symptoms are "masked." The *prognosis* as to recovery must be guarded. The great tendency to suppuration should be noted, and also the possibility of general peritonitis. The presence of foreign bodies in the appendix vermiformis, with ulceration and perforation, is a very fatal condition; but cases of appendicitis sometimes quite recover, with proper treatment. The chronic forms of perityphlitis may recover; but if there be much thickening around, or any stenosis of, the ileo-cæcal valve, the prognosis is unfavourable as regards a cure.

The treatment of perityphlitis, &c. All active purgatives must be avoided; but if the fever is not great and the tenderness is slight, mild and repeated doses of sulphate of magnesia is the best treatment. Opium should also be prescribed. When there is obstruction of the bowel by impaction of faeces, along with high fever, and tenderness over the cæcum—the case requires careful handling. The morphia should then be pushed, as in other forms of obstruction—no purgative being given. The morphia may be given with minute doses of atropia (about  $\frac{1}{10}$  gr.), and given until the patient is well under its influence. This treatment is to be continued until the bowels move naturally, or until the tenderness becomes less marked, when the Epsom salts may then be cautiously administered. Milk and lime water, ice, and champagne are useful when there is vomiting. Hydrocyanic acid may also be prescribed. Turpentine stupes or poultices should be applied to the abdomen, and leeches are useful, if applied early. Enemata of soap-suds should be injected when the time arrives for the removal of the

impaction without risk. Further surgical procedures may be necessary with impacted feces and appendicitis, &c.; and, indeed, the whole question is of importance in relation to *early* surgical interference, as the risk of removal of the appendix is not very great, while perforation is always fatal. Abscesses should be opened and drained.

**Tabes Mesenterica.**—This is almost exclusively a disease of childhood, and it consists of the chronic strumous enlargement and suppuration or calcification of the glands of the mesentery. The abdomen gradually enlarges, and it is tender to pressure and has a diffuse “doughy” feeling. Colicky pains are frequent, and they are accompanied generally by attacks of diarrhoea—the stools being often very offensive. The appetite is fitful and often it is very voracious; while notwithstanding the food consumed there is great emaciation. The skin hangs in loose folds, and the face of the child is very pinched and small. Recovery sometimes takes place under treatment; but death by exhaustion or complications is the general rule.

The treatment is considered with the general treatment of strumous diseases.

**The differential diagnosis of the foregoing diseases of the intestines, peritoneum, &c.**—*Enteralgia or colic* is distinguished from other pains by its seat, and termination; and by the absence of fever and of tenderness upon pressure. If due to malarial causes the attack is periodic; when syphilis is the supposed cause the attacks occur at night—like the syphilitic headaches. *Lead poisoning* and its symptoms must be noted. *Hepatic* and *nephritic colic*, *appendicitis*, and *gastralgia*, are distinguished by the seat of the pain and the presence of other symptoms associated with these affections. *Flatulence*, and *faecal accumulations* are the commonest causes of colic. *Perforation* gives rise to sudden and most acute pain; but the previous history as regards the likelihood of there having been an ulcer, may suggest the diagnosis, and the future course will confirm it. *Peritonitis* is associated with fever and great tenderness on pressure. *Hysterical tenderness* of the abdomen is accompanied by the other manifestations of hysteria, and pressure upon the abdomen while the patient's attention is occupied with some other subject, does not excite pain. *Rheumatism in the abdominal muscles*, when present, is probably associated with rheumatic pains elsewhere, and there is not much tenderness on pressure.

*Constipation* is either a symptomatic affection, or a simple functional disorder. All patients suffering from constipation should be thoroughly examined, as the diagnosis of a *simple* case can only be made by exclusion. Mental states, lead poisoning, and spinal disease; dyspepsia, and hepatic congestion with catarrh, liver disease, &c., are all associated with constipation of the bowels. Concerning the opposite condition of *diarrhoea*, the same may be said, and the reader is referred to the causes of this affection (see *ante*). The various forms of intestinal catarrh, with diarrhoea, may not be

distinguishable. A *gastric catarrh* frequently co-exists with a *duodenitis*; but the pain in the right hypochondrium, and the presence of more or less jaundice, indicates that the duodenum is affected. Catarrhal jaundice would probably be the more correct diagnosis. *Ileitis*, *colitis*, and *typhlitis* (when not associated with perityphlitis, as is usually the case) are sometimes distinguishable in a case of diarrhoea, by the tenderness and distention, or by the faecal accumulations in the ileum, colon, or cæcum. Catarrh of the rectum is known by the tenesmus, &c.; but uterine displacements, rectal polypi, and hæmorrhoids must be excluded. *Dysentery* and membranous *enteritis* must also be remembered. Tape-worm segments sometimes resemble the casts of a membranous enteritis. To differentiate cancer of the intestines from catarrh or ulcerations, will be impossible if no tumour can be felt, and no cachexia be present. With regard to a tumour, in this relation, faecal accumulations, aneurism, floating kidney, cancer of the cæcum, peritoneal growths, cysts, ovarian tumours, and perityphlitis, &c., have all to be noted. The age, and the presence of cachexia are important as regards the diagnosis of malignant growths. *Faecal accumulations* will move, or a purgative may clear up the case. *Aneurisms* are pulsating and expansile. The patient should be turned over on his face to examine such a tumour, as the aorta may communicate a pulsation to the hand through the tumour. *Floating kidneys* are freely movable. The seat, history, mobility, mode of development, &c., are considerations of high importance in the diagnosis of abdominal tumours.

The actual cause of *obstruction of the bowels* is seldom easy to determine, and in most cases it can only be inferred. Diarrhoea previous to obstruction—especially in a child—followed by bloody stools and tenesmus, suggests intussusception. Sudden violent pain with obstruction, following active exercise, suggests a twist in the bowel; but if there be a history of previous peritonitis, it is probably caused by tight strangulation within an old adhesion. Cases occurring in women who have borne many children, and in patients suffering from external herniæ, are probably due to old peritonic adhesions. A floating kidney or tumour may compress the bowel; and palpation and inspection may reveal an impaction of feces. The latter may be felt per rectum, when low enough. As biliary calculi sometimes serve as nuclei for faecal accumulations, a history of previous hepatic colic would suggest this form of obstruction.

Inspection and palpation of the abdomen may reveal important signs. When the obstruction is high up—in the duodenum or jejunum—the vomiting and hiccup is marked, but the vomiting is not fecal. The urine in such cases is much diminished; but this symptom is common to all *acute* obstructions. The abdomen is not distended when the obstruction is high up. If seen sufficiently early—before the distention becomes general—the examination of the abdomen may reveal that the whole of the colon is empty, and that the swelling is mostly round the umbilicus (obstruction at the ileo-cæcal valve); or that the colon is distended (rectal obstruction, or accumulation at

the sigmoid flexure). Below the obstruction the colon is empty, and the rectum may be "ballooned." Perityphlitis may arise from the irritation of some foreign body lodged in the cæcum, and it is frequently associated with impaction of fæces. Primary appendicitis does not produce obstruction; but the secondary perityphlitis may interfere with the action of the bowel. The subjects of appendicitis have usually a history of antecedent constipation; and the symptoms may resemble those of typhoid intestinal obstructions, pelvic peritonitis, and ovaritis (as regards pain). A psoas abscess may require to be differentiated.

**Intestinal hæmorrhage** is a symptom of many conditions. When occurring high up, the stools are tar-like, and the blood is mixed with the fæces; when from the descending colon or rectum, the blood appears unchanged. The causes are rupture of a blood-vessel in ulcerations of the bowel from the duodenum downwards—or even from a gastric ulcer when the blood has not been vomited; obstructive diseases of the heart, lungs, and liver—the latter causing increase of the blood pressure within the portal system; rectal ulcers; cancer; hæmorrhoids; typhoid fever; purpura, scorbutus, and other blood diseases.

When the rupture is sudden, and the blood effused is great in quantity, there is sudden paleness, noises in the ears, faintness, and loss of consciousness. The pulse is weak and rapid, and it may become imperceptible at the wrist. In typhoid, the temperature falls.

**Ascites** is also a symptom of many diseases. The beginning is usually obscure, and it is often only detected when a causal affection suggests an examination of the abdomen. There is increased fulness of the abdomen, and the fluid extends the iliac and hypogastric regions when the patient is in the erect, and the flanks when in the recumbent position. In extreme cases, the umbilicus is forced outwards. Tapping the abdomen with the hand excites a characteristic wave motion; and percussion reveals a tympanitic note over the distended bowel, and dulness at the flanks. Fluctuation is marked when the fluid is in sufficient quantity. The breathing may be much embarrassed when the abdomen is full. The urine is diminished in quantity. The lower extremities and scrotum become much swollen. The differential diagnosis of ascites from ovarian tumours and pregnancy is discussed in gynecological works; but chronic peritonitis, a distended bladder, enlarged spleen, tumours, and cysts are also possible sources of error. In ascites there is no tenderness, and the abdominal walls become thin, while the contrary is the case in peritonitis. The other conditions require careful palpation and percussion—with attention to the history and mode of development—to distinguish them.

## CHAPTER IX.

## DISEASES OF THE DIGESTIVE SYSTEM.—Section III.

**Contents.**—Jaundice—Catarrhal jaundice—Biliary calculi (gall-stones)—Cirrhosis of the liver—Cancer of the liver—Hydatids—Inflammation of the liver and abscess—Acute yellow atrophy—Congestion of the liver, cyanotic atrophy, pigment liver, fatty liver, syphilitic diseases of the liver, waxy disease, and perihepatitis—Thrombosis of the portal vein—Suppurative pylephlebitis—Diseases of the pancreas—*Differential diagnosis of the more important diseases of the liver—Murchison's table of the causes of jaundice.*

**Jaundice, or Icterus,** is a symptom common to many diseases of the liver, or of the liver and blood—*hæmo-hepatogenous jaundice.* (See *Diagnosis*, p. 193.)

**Catarrhal Jaundice.**—*Catarrh of the Bile Ducts, &c.*—The common duct is the part most affected, the initial change being hyperæmia of the mucous membrane. The duodenal end of the duct suffers most, and the mucous membrane soon becomes swollen and covered with tenacious mucus. The endothelium proliferates, and the *abris*, with the mucus and swelled membrane, all serve to occlude the duct and to obstruct the flow of the bile. These changes generally end in subsequent liquefaction, and recovery within a few weeks; but continued or repeated attacks may lead to fibroid degeneration of the liver and atrophy of the cells.

Catarrhal jaundice may arise from malarial influences, but more frequently it is produced by the extension of catarrh from the duodenum. The latter arises in connection with gastric catarrh, and over-eating and drinking; and the slighter forms of it are associated with the hepatic dyspepsia already described.

The **symptoms**, in the malarial form, may begin suddenly with pain or discomfort in the right hypochondriac region. There is usually constipation. The tongue becomes coated, the appetite is lost, and there is fever and general *malaise*. In two or three days the conjunctivæ become yellow, and soon afterwards the whole skin becomes tinged. The pulse is slow, and the heart weak.

The most common form, however, is the jaundice which follows gastro-duodenal catarrh. For some time previously the patient complains of the state of his stomach. A furred tongue, bad taste in the mouth, flatulence, nausea, and vomiting, with depression of spirits—the latter being very marked in cases of jaundice—is the usual history and course of a case. The jaundice gradually appears. The urine is high coloured, and exhibits a re-action to nitric acid when a few drops are placed upon a white porcelain slab and allowed to come in contact with the acid. A play of colours—green, blue, violet, red—is then observed. The stools are clay-coloured and offensive. As digestion is imperfect—especially of the fatty constituents of the food—there is much flatulence. The skin is often itching; and the