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AFFECTIONS OF THE LIVER—HEPATITIS.

From Dr. C. J. B. Williams's Lectures on the Theory and Practice of Medicine.

WE now come to *affections of the liver*. We might have been led to imagine that the liver is not so obviously exposed to disease as the alimentary canal. The alimentary canal is at any rate especially exposed to the various crudities of food, and so forth, passing through it; and, likewise, the character of its secretions is sometimes found acrid and irritating, and this leads to mischief. However, the liver is found to be affected, not only by modifications of its secretions, but likewise by external causes, and through the medium of the circulation. The liver is one of the great secretory glands of the system. All kinds of matter, however introduced into the circulatory current, have to pass through the vena portæ, and through the liver, and thus exercise a direct effect upon this viscus. In this way, alcoholic liquors are liable to disorder the functions of the liver, and also every other class of irritating and poisonous substances. The liver is also subject to derangement, not only of a direct, but likewise of a sympathetic character, in consequence of any disorder affecting the duodenum or the stomach. I have mentioned already, that, both in gastritis and in duodenitis, the functions of the liver are very apt to be disordered, and it would appear that there is a sort of natural relation subsisting between the duodenum and the liver, inasmuch as the process of chylification can only be carried on, by a due balance being maintained between these two organs. So, likewise, various indigestible foods, passing through the duodenum, will cause either an excessive flow of bile, or else disorder and interruption of the secretion. The chief external influences which affect the liver, are heat and cold. It is well known that, in warm climates and seasons, the liver is peculiarly apt to suffer, and its function to be disordered. Such a state is exhibited in cholera; while, at other times, its function is apt to be arrested by inflammation, especially when induced by extreme heat, whether artificial or natural. That the temperature is the direct or exciting cause of the disease, is not clear. This may possibly be due to the change that takes place in the blood, whether arterial or venous, not being complete, the blood, in a warm temperature, being more stimulated than usual, while, in a cold temperature, it becomes more venous. Now, as the liver is chiefly supplied from the venous blood, it is highly probable that the difference in

this respect will affect its function, and, when the blood becomes more arterial than usual, the function may be deranged; or this may be from the effect of the heat itself. And, again, extreme cold is known to produce disorders of the liver, likewise. I need only refer to the late very cold weather, which, in my own experience, produced many cases of disorder of the constitution, generally connected with an enlarged, congested, and inactive state of the liver. This is the very common effect of a sudden transition from heat to cold.

Now, the first disease which we shall consider, under the head of inflammatory affections of the liver, will be *hepatitis*, of the acute form. We find, in books, hepatitis described as a very distinct disease, attended with symptoms of inflammation, and disorder of the function of the liver; but we have found, at least in this country, that this affection is more obscure than it is commonly supposed to be, and far less distinct in its character. It is often not easy of recognition, on account of the absence or obscurity of the inflammatory symptoms. The symptoms are commonly those of fever, with more or less gastric disorder, sickness and vomiting, and various other symptoms, either of duodenal or gastric derangement; and, with this, there is commonly pain, tenderness, and fulness in the right hypochondriac and epigastric regions, and an increased dulness, on percussion, over these regions. The pain is frequently felt low down on the right side, along the margin of the right loin, and extending sometimes to the back, being increased on the movement of full inspiration, or on pressure under the ribs; there is also, frequently, a sensation of dragging, caused by the patient lying on the left side. The right side is generally too tender to lie upon, but the uneasiness is still greater if he be on the left side, and commonly, therefore, the patient lies on the back. The pain is very various in degree. Sometimes it is felt in the right shoulder; this is commonly described as being characteristic of hepatic affection. In many cases such a pain is present in connection with affection of the colon. The enlargement in the right hypochondriac region is one of the most important symptoms; it is perceptible by admeasurement, and occupies the entire anterior part of that region; it extends into the abdomen, and the liver may be felt there on pressure; but, to be quite sure of the character of this fulness, it is necessary to apply percussion. Now, the hepatic dulness, in the natural state, varies considerably. It varies, as we have found, in certain diseases of the chest. In emphysema, the lungs press downwards, and almost cover over the liver, and scarcely any dulness at all is observed; and sometimes, in healthy persons, with broad and expanded chests, the lungs overlap the liver to a great extent, so that the natural dulness, otherwise perceptible in the region of the liver, often varies from a line of, perhaps, two to three and a half inches, or more, in breadth, extending from the epigastrium to the margin of the false ribs. The breadth of this band may, sometimes, be pretty fairly covered by the hand; lower down, the liver is altogether overlapped by the intestines, and the sound will there be more of a tympanitic character. Now, with regard to the height to which the dulness reaches—this varies considerably in different

subjects. It may be perceived on strong percussion, reaching up to the fourth rib on the right side—sometimes even higher. Occasionally, the enlargement is downwards, and extends across the epigastrium, as low down as the umbilicus. It may reach from the hypochondriac region almost down to the iliac region. At any rate, it is frequently found from two to four inches below the margin of the ribs. If there be a displacement or enlargement of the liver upwards, it pushes the diaphragm along with it, causing a considerable amount of dulness in the right side of the chest, and the necessary effect of this is to produce a pressure on the lungs, and not only dulness on percussion, but other signs of disorder in the respiratory function. The dulness will be perfect as high as the fourth rib. In the back, though less in degree, the sound reaches to the angle of the scapula, and even passes into the axilla. There is a sound of dulness, here, on the presence of which the diagnosis of enlarged liver depends. You have to diagnosticate this from effusion into the pleura, and pulmonary consolidation; either of which may greatly simulate it. Now, effusion into the pleura may be distinguished in the following manner:—effusion into the pleura congregates chiefly at the lower part of the chest, the lung not being so much compressed in the centre as around its margins. On the other hand, the liver, by its enlargement, compresses more the central portions of the lung, but leaves the outer margin uncompressed and lapping over against the walls of the chest. Now the effect of this is to modify greatly the sound on percussion. There is a perfect dulness over the enlarged liver, where it comes in immediate contact with the surface, but, as you get a little higher, the dulness is not so perfect; and, if the percussion is well applied, a degree of resonance will be perceptible in the more superficial parts. You perceive, that there is a layer of the lungs overlapping the liver, and this is still more perceptible as the layer is thicker, and higher up. Now the opposite thing takes place in the case of liquid effusion in the pleura. The lungs are pushed away, and percussion produces a purely dull sound. The sound is very different in character. The respiratory murmur is also attended by a whiffing noise, owing to the compression causing a great resistance to the air on entering. Compare that with the opposite side, and you will find a remarkable difference. What effect would you expect from a large tumor, pushing up, not only the diaphragm, but compressing the central portions of the lung? Why, it would produce tubular respiration, by the condensation of the texture caused by this body rising up; and the same effect takes place by compression of the centre of the lung by the liver. The superficial character of the pulmonary stroke-sound, likewise, and the absence of crepitation and of egophony, which are present in the case of liquid effusion into the pleura, will also tend to distinguish it. These signs are, then, of much importance in the diagnosis between hepatitis and other affections of the chest, attended with hepatic derangement.

The enlargement, then, takes place downwards or upwards. It also takes place outwards. This assists materially in the diagnosis. It is a very marked sign, when there is fulness in one portion of the chest that does not correspond with the other or opposite side; especially when such

fulness is attended by dulness in the region of the liver, and also a bulging out of the ribs. There is another circumstance, too, that often guides us, but which, at the same time, may mislead us; and that is, the presence of inflammatory symptoms. There may be enlarged liver without inflammation; but where inflammation does exist, it very commonly extends from the liver, or from its peritoneal covering, to the diaphragm and its pleural lining, and thence to the concave surface of the lungs. Enlargement alone does not constitute a criterion of hepatitis. Enlargement with dulness may exist in congestion, and in various structural diseases, and we must look, therefore, to the presence of fever and heat of the skin, more particularly in the region of the liver and the abdomen, and to the state of the pulse. A friction sound may, in some instances, be met with in the region of the liver itself—a slight rubbing, produced by the action of the diaphragm on the upper surface of the liver; but more commonly it arises from a degree of pleurisy affecting the lower margin of the lungs. Often, there is, with hepatitis, nausea and vomiting, and, in some cases, there is jaundice, but these are somewhat uncertain symptoms. Sometimes, there is some diarrhoea present, and, occasionally, a dry cough, from the extension of the irritation or inflammation to the pleural surface of the diaphragm.

Terminations of the Disease.—The tendency of the disease, in the acute form, is either to terminate *by resolution*, *by suppuration*, or to pass into the *chronic state*. The symptoms of resolution are: subsidence of the pain, the heat, and the fever, and disappearance of the swelling. The symptoms of suppuration occurring, are: chiefly, subsidence of the heat, and the fever, but no subsidence of the swelling, and only a partial subsidence of the pain. At least, the pain may subside, but not the tenderness in the region of the liver. The pulse, too, remains very quick. There are frequent rigors, as in other cases of suppuration. The skin of the countenance, and of the body generally, exhibits a pallidity, sometimes accompanied with a hectic flush on the former. Where abscesses are formed, there is a remarkable disposition to oppose the action of mercury. This is not so commonly observed in this country, as in hotter climates. The suppuration may be in the form of circumscribed abscesses, or else forming one large abscess, and becoming encysted by the formation of a strong coat of lymph. The formation of simple abscesses is, perhaps, more common. The abscesses may open in various directions; either into the intestinal tube, causing vomiting or purging, with the discharge of a quantity of purulent matter, a case of which kind came under my care in this hospital, where the abscesses opened into the colon; or they may, sometimes, open into the duodenum, and, sometimes, into the gall-bladder, or even pass through the diaphragm into the pleura. Sometimes, the lung and the pleura form adhesions to the diaphragm, and abscesses have thus discharged themselves, into the substance of the lung. An abscess may pass through the substance of the lung, causing pleuritic perforation, and, in this case, you find it will communicate with the large bronchiæ, and there is, then, a large quantity of purulent matter coughed up. Sometimes, it communicates with the sac of the peritoneum, and,

in one case, it was known to open into the pericardium. It is more rarely that it opens outwardly, and discharges through the integuments. A case occurred last year, which was presumed to be abscess of the liver. There was considerable enlargement of this organ, and, ultimately, the abscess pointed in the loins, below the margin of the ribs, on the right side. An enormous quantity of very fetid pus was discharged, from two different places, and the patient eventually recovered, and is now living apparently well. There were strong attempts to commence a discharge from the lungs by cough. The best mode of discharge must be considered as that by stool. Several cases have recovered in India, where this has been the case. In spite of the abscess opening outwardly, the patient may sink; in fact, he may sink in consequence of the drain thus established; again, if it opens into the peritoneum, it will produce peritonitis; if in the pleura, pleuritis; if in the substance of the lung, it may produce suffocation; even opening into the intestines, it may cause enteritis, or death by exhaustion. A few cases are recorded of recovery from abscess of the liver. Annesley, in his work on the diseases of India, records several cases of recovery from hepatic abscess, in one of which, after death, cicatrices were found to exist in the liver, accompanied by false membranes around it, &c. There was one case happened last session in this hospital, in which there were abscesses of the liver, attended by disease of the lung. The surface of the liver appeared to be completely covered with cicatrices. The chief appearances, in recent cases of abscess of the liver, are a softer and redder state of this organ than usual; it is, also, very much enlarged. The presence of abscess, in a few cases, may be diagnosticated by fluctuation, perceptible in the region of the liver, or below the ribs, and this is accompanied by extensive dullness. In the cases I have seen, however, this could not be recognized, for abscesses mostly take place in the convex portion of the liver, in the hollow of the diaphragm, and, therefore, we are unable to detect it by the test of fluctuation. I do not know of any certain physical signs for determining the existence of abscess. However, the various signs of inflammation and perforation of the different viscera, might lead to the suspicion of the presence of an abscess; for instance, the increasing pain in the direction of the pleura, accompanied by a troublesome cough and difficulty of breathing, with increased dullness on percussion, over the region of the pleura, and the friction-sound, also, probably being present. Should the abscess communicate with the lung, we shall likewise have consolidation of this latter organ, and large quantities of purulent matter expectorated. Taking into account the history of the case, the previous existence and long continuance of pain and swelling in the right side, together with the subsequent occurrence of cough and purulent expectoration, the diagnosis may often be made out with tolerable facility.

The *exciting causes* of hepatic disease, besides hot climates and seasons, and stimulating liquors, are: blows on the side, sudden suppression of diarrhœa, and obstruction of the gall ducts by calculous concretions. Mereury, also, has been known to produce it.

The *treatment* must be antiphlogistic: venesection, in the early stage

of the disease, or cupping at the side to a large amount, which, in some cases, answers better than venesection, by drawing away the blood from the immediate neighborhood of the parts, which must be done till the fever decreases, as well as the pain in the region of the liver, the tenderness, and the swelling. Purging is a good remedy. Calomel purgatives, followed by salines, answer very well. Bloodletting, if repeated, should be local; cupping may be several times repeated, and, for some time afterwards, purgatives should be administered. Mercury is a remedy of great value; but it is questionable whether it is so useful in the acute as in the more chronic form of hepatitis. It is considered as a stimulant to the liver, and some practitioners, in India, have raised a question whether it is not injurious, and whether it does not do more mischief by its stimulating property, in such cases, than it does good. It is only, however, in India, that its efficacy seems to be questioned. It is useful to combine it with tartarized antimony and James's powder, and also to administer saline aperients. When the symptoms of enlargement continue, it will be useless to persist in this treatment. Under these circumstances, the diet should be much more generous. It is necessary to maintain the free action of the bowels, and to give occasional doses of mercury, after attacks of acute hepatitis, because the inflammation is apt to remain in a lower degree, and to go on to the chronic form, or to pass into structural disease. Therefore, mild mercurial doses should be continued. Chronic hepatitis, or hepatic congestion, are common effects of the acute disease.

Hepatic Congestion—presents but few symptoms, they being mostly signs of disturbed circulation; very few symptoms are referable to the liver. Besides the signs of weak circulation, there is chilliness of the surface, cold extremities, &c., which are very common signs in connection with congested liver. The other symptoms which occur, are usually those of duodenal dyspepsia, arising from imperfect digestion of the food, the appetite being, perhaps, considerable, with disturbance merely in the process of digestion, scanty and high-colored urine, and the stools exhibiting more or less disorder, being sometimes paler than usual, and sometimes of a darker color, with a want of the natural bilious, yellow tinge, which is characteristic of the healthy evacuations. These symptoms often occur in connection with congested liver, without any pain in the side. In many cases, however, there will be found a constant pain in the side. There is, likewise, a feeling of dragging at the right side, and, as the disease goes on, there is a sallowness of the skin, almost amounting to jaundice, which is also manifested in the white of the eye. The skin is generally dry, but, at times, bathed with cold perspirations: the tongue is loaded with a white or yellowish fur, and there is a bitter taste in the mouth; the evacuations are disordered in the manner I have mentioned, and the heat and pain extend from the right side towards the epigastrium, and the right shoulder blade. The liver is generally of a very enlarged size, as may be tested by percussion, accompanied by great tenderness of this organ. If the disease goes on, generally speaking, there are more or less febrile symptoms developed; and bilious or gastric fever

declares itself, accompanied with attacks of shivering, vomiting and giddiness. The urine appears high-colored and scanty, being largely tinged with bile.—*London Med. Times.*

INTERESTING CASE OF CONGENITAL IDIOCY.

[DR. CONOLLY, in the last No. of the British and Foreign Medical Review, gives an interesting account of the lunatic asylums of Paris. Perhaps no part of it is more valuable than that which relates to the department of the Bicêtre Hospital appropriated to epileptic and idiotic patients, and to the wonderful improvement in one of these patients. This portion of his account is given below.]

I was accompanied round this asylum by M. Battelle, and by M. Malon, the director, and had afterwards an opportunity of hearing from himself the exposition of the views of one of its able physicians, M. Voisin, whose singular zeal in the cause of the idiotic class of patients has caused difficulties to be overcome, which appeared at first to be insurmountable. The first part of the Bicêtre to which I was conducted, was a school exclusively established for the improvement of these cases and of the epileptic, and nothing more extraordinary can well be imagined. No fewer than forty of these patients were assembled in a moderate-sized school room, receiving various lessons and performing various evolutions under the direction of a very able school-master, M. Seguin, himself a pupil of the celebrated Itard, and endowed with that enthusiasm respecting his occupation before which difficulties vanish. His pupils had been all taught to sing to music; and the little band of violins and other instruments, by which they were accompanied, was formed of the old almsmen of the hospital. But all the *idiotic* part of this remarkable class also sung without any musical accompaniment, and kept excellent time and tune. They sung several compositions, and among others a very pretty song, written for them by M. Battelle, and sung by them on entering the class-room. Both the epileptic and idiotic were taught to write, and their copy-books would have done credit to any writing school for young persons. Numerous exercises were gone through, of a kind of military character, with perfect correctness and precision. The youngest of the class was a little idiot boy of five years old, and it was interesting to see him following the rest, and imitating their actions, holding out his right arm, left arm, both arms, marching to the right and left, at the word of command, and to the sound of a drum beaten with all the lively skill of a French drummer by another idiot, who was gratified by wearing a demi-military uniform. All these exercises were gone through by a collection of beings offering the smallest degree of intellectual promise, and usually left, in all asylums, in total indolence and apathy. Among them was one youth whose intellectual deficiency was marked in every look, gesture, and feature.

I think a more particular account of this poor boy's progress deserving of record, as an inducement to the philanthropist to enter on a new field