AN INAUGURAL DISSERTATION
ON
Hepatitis.

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Inflammation of the Liver.

The knowledge of the Anatomy and Physiology of a part, being an indispensable prerequisite to the study of the diseases of that part, we think it proper to give a brief outline of the Anatomy and Functions of the Viscera, the inflammation of which, is to be the subject of these pages.

The liver is the largest glandular structure in the human body, and belongs to that class which receives the name of conglomerate glands. It is placed obliquely in the superior and posterior part of the abdominal cavity, and occupies the right hypochondriac region, extends across the epigastric, and passes into the left hypochondriac. It has a convex and a concave surface; the former,
looking upwards + forwards. The latter, downwards + backwards. It also has two borders. An anterior, which is sharp + is directed forwards, + is marked by a deep notch, through which, passes the remains of the umbilical cord.

The posterior is rounded, + is directed upwards, + backwards. It is in relation superiorly, + posteriorly, with the diaphragm. Inferiorly with the stomach, ascending portion of the duodenum, transverse colon, right supra renal capsule, + right kidney. It sometimes extends so far into the left hypochondriac region, as to be in contact with the right extremity of the spleen. Its free border corresponds with the lower margin of the ribs. It is held in situ by five ligaments, four of which, are
composed of folds of peritoneum, and one, the
remains of the umbilical cord. On its
under surface are five figures, which di-
vide the gland into five lobes. 1st. The
Longitudinal Figure, passing from the
notch on the anterior to the posterior
border; dividing it into a right, and a
left lobe. 2nd. Figure of the Ductus Ve-
nosus, which is a continuation of the
Longitudinal Figure. Separates the left
lobe, from the Lobus Fligelii. 3rd. Tran-
sverse Figure, which separates the Lo-
bus Fligelii, from the Lobus Quadratus
and Lobus Lumbatus, from a portion of
the right lobe. 4th. Figure for the
Gall Bladder, which separates the
Lobus Quadratus, from the right lobe.
5th. Figure for the Vena Cava, which
is situated between the Lobus Chi-
gelii, + the right lobe. There are five vessels, which enter into the structure of the liver. 1st, the Hepatic Artery, is a branch of the Coeliac Axis, which is the first large branch given off by the Abdominal Aorta. It divides into two large branches, which enter the liver at the Transverse Fissure, and is then distributed. One branch to the right, the other to the left side of the Organ. 2nd, Vena Portae, which is formed by the junction of the Splanic, + Superior mesenteric Vein, enters the liver at the Transverse Fissure, where it divides into two primary, or lateral branches, + then into numerous secondary branches, which are distributed through the gland, giving off vaginal + interlobular veins.
3d. Hepatic Vein, which commences at the circumference of the organ, and passes backwards to open into the Vena Cava. 4th. Hepatic ducts. Common excretory duct of the Liver & Gall Bladder. Cystic duct, & Hepatic duct. The Ductus Communis Choledocius, commences at the junction of the Hepatic & Cystic duct, is about three inches in length, & opens through a papilla, on the inner surface of the perpendicular portion of the duodenum. The Cystic duct, is the excretory duct of the Gall Bladder, is about one inch in length, & opens into the Ductus Communis Choledocius. The Hepatic ducts commence on, or within, the Malpighian bodies. Converging towards each other, they
pap along the Portal Canals, and unite in the Transverse Figure, forming one vessel, which empties into the ductus Communis Choledocus.

8th. The lymphatics, which are divided into superficial, and deep. The former are found distributed throughout the entire areola structure of the proper capsule of the liver. The latter, take their course through the Portal Canals. They all pap out of the organ to unite with the glands, which are contiguous.

The nerves of the liver come from the systems of Organic, and Animal life.

The functions of the liver, we may at once conclude, are of the utmost importance to the human organism;
since we are acquainted with its great size, the superabundant amount of blood, which it receives, when compared with the other viscera of the body; the rapidly ill, term fatal effects, which attend diseases of this organ. Its chief offices may be regarded, as digestive, and excretory. The bile being alkaline, when it is mixed with the chyme in the intestines, serves to neutralize the acidity of that liquid, which acidity it receives from the gastric juice. Again, as it mixes with the pancretic fluid, it shares greatly in the emulsifying power, by which the fatty matters of the aliment, are reduced to such a degree of division as to render them more absorbable.
It is exerted in separating from the blood portion of the portal blood, the old blood cells, or disintegrated particles of the economy, which are found in the blood. Thus a quantity of hydrocarbonaceous material is obtained, and is thence, in part at least, discharged through the alimentary canal, acting at the same time, as a stimulant to the peristaltic motion of the bowels, it aids in the removal of the feces. Having briefly, imperfectly sketched the anatomy, and functions of the liver, we propose to examine one of its most common diseases, viz:

Inflammation.

This disease is usually commenced with pain, and tenderness in the he-
spastic region. The pain varies very much in different cases, from lancinating and torturing to a more vague uneasiness in the right hypochondriac, or epigastric region, thus marking the distinction between the acute, and the chronic form. It may be confined to one particular spot in the gland, or may extend itself, diffusely, throughout it. Or it may be wandering, sometimes in one part, sometimes in another. It is not usually confined to the inflamed viscus, but more frequently is felt in the right shoulder, occasionally, affecting the subscapular, or clavicular regions. It may be felt in the left shoulder, when the left lobe is diseased. It is sometimes felt in the parasites of the chest,
or in the head. These wandering pains are purely sympathetic, and must be carefully diagnosticated from those which are felt in diseases of these parts. This can be done by manipulation, or by causing the patient to use the limb, which would greatly increase the pain in it; if it be due to disease in that part. When it becomes necessary to ascertain whether the disease is in the liver, or some contiguous organ, the patient should be placed on the back, with the shoulders elevated, and the thighs flexed, so as to relax the abdominal muscles. Then make pressure below the liver, with the fingers extended, after which, flex them so as to press it against the diaphragm above. By thus applying force to the organ, we may, in most cases,
determine, whether it is inflamed, or not. This will also distinguish between inflammation of the Colon and Liver. Inspiration will cause increase of pain, in consequence of the descent of the diaphragm upon the liver. The decubitus is peculiar, the patient generally lying on the right side, or on the back, inclining to the right. When on the left side, the organ will gravitate that way, and by this will cause increased tension of the ligaments, and consequently increased pain. When it is enlarged, it causes too much pressure on the stomach, while lying on the left side, thereby producing gastric uneasiness, or irritability. It is sometimes the case, that the individual finds more relief in the sitting posture, inclining
forwards at the same time. The enlarge-
ment of the liver may be slight, or
very great. Here, we must guard against
error in diagnosis, by not mistaking
a misplacement, for an enlarge-
ment. By the aid of percussion, we may
generally decide whether the organ is
in the normal, or an abnormal posi-
tion. When there is much enlargement,
there will be a bulging of the lower
ribs, which we may readily detect
by stripping the patient, & taking a view
of the body from below upwards, & com-
paring the two sides. Or, by actual
measurement from the inferior end
of the Xiphoid Cartilage, to the Opsi-
nous process, of some one, of the Por-
doral vertebrae; then measuring the opposite
side from the same points, & noting
The difference. When the enlargement extends below the ribs, the bowels are empty, the abdominal walls not very thick, the lower margin of the gland can be distinctly felt, by having the shoulders thrown forward, the thighs flexed on the abdomen. Cough is sometimes an attendant of enlargement of the liver, caused by its encroachment on the diaphragm, which, in this way, is pressed up against the right lobe of the lungs; or its weight may cause it to fall too far down, in this way draw the diaphragm from its normal place, thus irritating the lungs. The cough may, or may not be attended with expectoration. It is generally dry. There may be difficulty of breathing, caused by Compression.
ion of the right lobe of the lungs. Or palpitation, by interfering with the action of the heart. The Stom-
ach may be much disturbed, or only slightly nauseated. There is more gen-
erally much gastric distress from-
acting, sometimes of bilious matter, sometimes, simply of matter, which has been taken into the Stomach.
When the liver is greatly congested, it may produce ‘Hematemesis’, by caus-
ing congestion of the mucous mem-
brane of the Stomach. The bowels are usually in an unhealthy state, sometimes much constipated — again quite active, thus, indicating the deficiency, except, of a perverted state of the bile. The Conjunctiva, skin are yellow, or yellowish. The urine
is of a deep yellow color. The tongue is furred, and the coating is yellowish, attended by a bitterish taste. The last symptoms indicate that the disease is not located in the superficial part of the organ alone, but that the parenchyma, or body, is involved in the morbid action; that the blood is loaded with the elements of the bile, which should be separated by the liver. The patient occasionally has much mental depression, sometimes amounting to insanity, thereby showing the sympathy between the brain and the liver. Or, more probably, it is due to the ill effect of the blood on the brain, when it has an excess of bile as one of its constituents.
Fever is almost always an accompaniment in this disease. It is usually preceded by rigors, as is the fever of other local phlegmata. It may be very high, or quite the reverse, showing itself by slightly accelerated pulse, flushed face, heat of skin, &c. being more, or less periodic. It sometimes assumes a low, slow form, and is continued. It is not a constant symptom as cases of abscess have occurred without it.

The duration of hepatitis is exceedingly variable, depending very much on the treatment, which it receives. It may exist only for a few days, or continue for years. It may terminate in resolution, which is more properly, a termination of
congestion, & not of inflammation; for resolution is short of inflammation. Or, it terminate in suppuration, induration, or gangrene. The acute may pass into the chronic form, which may ultimately yield to proper remedies, or may at last terminate in abscess, or some other organic disease. This is more likely to be the result in hot climates, where the disease is more frequent, where the exciting cause is constantly in action. Suppuration is known to commence by rigors, or chillisleep, & acceleration of pulse, though it may be softer, & weaker, thereby causing relaxation of the surface, & consequently a tendency to perspiration, especial-
-ly while the patient is sleeping, there will be a weighty, or dragging feeling felt in the region of the liver, in connection with a throbbing sensation in the same part. 

As having been formed, according to a physiological law, it makes an effort to escape from its cavity. 

Abscesses of the liver may be discharged in several ways. 1. It may cause adhesion of the peritoneum, then pass through the parietes of the abdomen, in any part of the hepatic region. 2. If the abscess be in the upper part of the duodenum, the matter may pass through the diaphragm into the pleural cavity, causing Empyema, and may then be discharged through the walls of the
Chest: it may make its way into the parenchyma of the right lobe of the lungs, producing pneumonia, then into the bronchial tubes, inducing bronchitis; it may be finally expectorated, or suffocate the patient. Having reached the substance of the lungs, it may again pass the pleural cavity, and be discharged from the surface of the body. When it is situated upon, or in, the lower portion of the liver, the matter may pass into the intestines, or stomach. The peritoneal investments of these viscera becoming agglutinated, as the case requires. When it enters the stomach, it is more probably vomited. When it is discharged into the colon, it escapes per anum. When it
papes into the duodeum it may be
vomited, or passed off by stool.
The matter may pass into the bil-

diary ducts, & escape. It may get in-
to the Vena Cava, Pericardium, or
Pelvis of the Kidney. Finally, it
may pass into the Peritoneal Cavity.
Consequently, inducing, almost cer-
tainly, a fatal Peritonitis.
Inflammation of the Liver is a
fruitful cause of other diseases.
Causes. As a high degree of Temperature
in the body, when long continued, causes
an increased proportional quantity of Car-
bon to be thrown off by the Liver; it becomes
evident, that continued heat would cause
Hepatitis, by stimulating the organ to
perform a superabundant amount of
work. Rapid, & great changes from
heat to cold, or from cold to heat, with equal changes in regard to moisture, may be exciting causes; in consequence of the effects on the circulation. Any thing, which may produce venous congestion may produce the disease; as diseases of the heart, obstructions to the Vena Cava, etc. Masmatic diseases, which are attended with great internal congestions, are fruitful causes of Hepatitis. Diseases of the stomach, or bowels may act as causes, by changing the quantity, or constituents of the Portal blood. In this way intercurrent eating, or drinking may excite inflammation in this organ. The inordinate use of medicines, which act on the liver, may cause the disease. Injuries received in other parts of the body, or extremities, or falls, or blows, which
injure the gland itself, may act as exciting causes. The more direct, + violent cause, usually produce the acute, whereas those, which act indirectly, + less violently, produce the chronic form. Treatment. This has of necessity to be antiphlogistic, in the early stage, + when it is of the acute form, + in a strong constitution. Those remedies should be used which have the capacity or tendency to lessen the plasticity of the blood, + which will greatly reduce the excitability of the heart, + arteries. To meet these indications, blood-letting should be our first remedy. When the case has not been in progress more than two or three days, + the pulse is rapid, full, + hard. The skin dry + hot, blood should be drawn from
a large orifice, from one, or both arms, at the same time, until there is an approach to syncope. If it be necessary to take a large quantity of blood, the orifice should not be so large. This will reduce the fever by lessening the amount of blood, more especially the red corpuscles. It will also reduce the arterial excitement, thereby inducing a condition of the system more favorable to the action of other remedies. If reaction should supervene with increased violence, it would be proper to repeat the bleeding; but the relaxed state of the system ought to be preserved by the proper use of other remedies. When the case will not bear general bleeding, it will be highly proper to use cups, or leeches, applied over the hepatic region.
be beneficial to cord the extremities, in this way prevent the venous return, to an extent, for a short time, giving the inflamed gland time to relieve itself of its great excess of blood. This latter mode is especially applicable in cases which require, that the strength should be hard-pressed. After the proper results of resection are obtained, purgatives should be resorted to. Those articles should be chosen which are known to have the capacity to act in the blood as de-fibrinating agents, which will directly or indirectly unload the portal vessels, which may act as resolvives to the inflamed gland.

Calomel may be given in a full dose, and should be followed in four, or five hours by an active hydrogyn
cathartic. Or, it may be combined with some other purgative, as Sal泻, Stannmony &c. The Blue Pill may be substituted for the calomel when the latter is contraindicated. If this plan is inadmissible on account of gastric irritability, calomel must be used in smaller doses, in combination with Opium every night, followed in the morning by a saline cathartic; so as to keep the bowels well opened. If the stomach can bear it, the best antispasmodic remedy, we can use is the Tartarized Antimony, which should be given in solution, in such minute doses as not to cause reunion, nausea. It has also a very salutary effect as an arterial sedative, a general relaxant of the system, in consequence, of its
blood action. To allay nervous irritability, procure rest for the patient, at night, which is highly necessary, we may use Dover’s Powder. If there is much sickning at the Stomach, & the skin is inactive, it would be proper to use the refrigerent diaphoretics, to restrain such sickness, & to arouse the secretory power of the subcutaneous glands. If there is no indication for diaphoretics, the nausea may be treated with revulsives, Carbonic Acid Water. Preparations of Opium &. If there be no organic disease of the Stomach, small doses of Kreosote would be useful in controlling the gastric uneasiness. For heat, & inaction of the skin, cold sponging would be proper, or it would be beneficial to wash the patient with
Vinegar water. Alkaline solutions would probably be better. In the first, 
highly inflammable stage, large 
fomentations, or poultices should be 
kept to the side, being so medica-
ted as to allay pain, as much as 
possible. After this, if the symptoms 
do not appear quite favorable, a 
large blister should be drawn over the 
region of the liver, and the mercurial 
course continued, with great caution, 
to the approach of Mhyalism. 
In the chronic form of the disease 
the above form of treatment should 
be modified, and continued longer. 
The disease in all cases is to be treated with reference to its cause. If it 
be due to Miasmatic disease, it is prep-
ner to remark, that we need not expect
any good result from the use of antiperiodics until the local inflammation has subsided. The care of the patient should be carefully attended to, as it is of vital importance to regulate the quantity and quality of the portal blood. It is to be proportioned according to the strength and inflammatory state of the system. Farinaceous, easily digestible articles are to be chosen, the object being to use such aliment as will be nutritious, at the same time not irritating, nor stimulating.

When it becomes evident that suppuration has commenced, all the depletive measures are to be arrested, particularly the use of mercury is to be abandoned. The indication is to has—
- ten the process, to sustain the patient until nature can effect the cure, if effected at all. Tonics should be employed. The best of which is probably the Nitric Muriatic Acid. This may be used internally, and externally. Newcom's excitement is to be remedied by the use of aconitines. If opium should be inadmissible, Conium, Hyoscyamus, Thamnium, or may be substituted. Large poultices should be kept constantly to the side for the purpose of moderating the pain, and inviting the matter to the surface. If it takes an internal direction, we can only strive to sustain the patient, and meet the various indications in the case, as they present themselves. If it makes its appearance on the surface in a well
defined, circumscribed, \textit{and} fluctuating tumor; we may hope that it will be discharged externally. If all the evidence in the case should lead us to believe that adhesion was fully formed between the peritoneal folds, and the constitutional powers of the patient were much impaired, it would be proper to hasten the discharge, by making an incision into the abscess with a cutting instrument.

But if the strength would justify an indulgence of the natural course, it would be better to wait for it, as it would throw off the matter by very minute openings, and in this way would prevent the ingress of atmospheric air, which prevention is extremely necessary.