Suppurative Inflammation
and Abscess of the Liver.

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The uncertainty of our knowledge respecting the structure and function of the liver, is such, that it is not to be wondered at that its working secrets are in proportion unintelligible.

The blood which supplies it for functional purposes, passes through a system of vessels quite unique in its relations to the general circulation.

The column of blood in the bica porta is renewed in at both extremities by a system of capillaries, so that the force of the heart, (either by the vis a teno or the vis a fronte) must be conveyed through the medium of these vessels, and thus can scarcely be conceived to exercise such an influence, as where no such obstruction exists.

The portal blood like that carried from the right side of the heart to the lungs is venous, though it differs materially from it in chemical composition.
We are acquainted with the appearance of the bile in the gall bladder, and with the course anatomy of the gall ducts; but as far as bile when first secreted, or the ultimate terminations of the bile ducts are concerned, we are totally ignorant.

It is somewhat remarkable that in a healthy liver the hepatic cells are almost colourless, and it is only where the organ is disordered, and generally in fact when all the other textures are tinged with the colouring matter of bile, that these cells present the same appearance.

Moreover we may have the most complete disorganization of the liver without jaundice, and indeed, the only cases where we are certain to have that phenomenon, are those in which the gall duct has been obstructed.

These statements would rather point to the conclusion, that the bile when first secreted is colourless, and that it somehow or other becomes coloured in its passage along the bile ducts, possibly by the addition of some new secretion.

The frequent absence of symptoms in the most grave changes of structure in the organ undoubtedly give some grounds for the rather enigmatic doctrine of some physiologists that the liver is of little or no importance in the economy.
In other secreting glands we can judge of their disorder by the alterations in the appearance, and composition of their secretion. But the secretion of the liver as also of the pancreas are beyond our reach; we cannot take the bile, nor can the urine, fresh and unmingled with other matters, and ascertain its normal properties, nor, by a living healthy man, nor in like manner, detect its deviations from the normal standard.

Our sense of hearing is valuable in the diagnosis of chest affections in disease accompanying. Indeed it is only physical signs which can aid us in an increased or diminished extent of dulness on percutition, together with alteration of configuration as ascertained by manipulation through the abdominal cavity.

For are symptoms local or constitutional, much more definite in pointing to the nature or extent of the lesion.

When we are ignorant of the anatomy, physiology, and disease of the liver it only to be expected that its morbid anatomy should be equally obscure. We are aware of the appearances present, to my mind called fatty, hard, enlarged, etc. but we know not the explanation of these changes, indeed great variety exist in the opinions of pathologists.
with regard even to their nature.

The most simple, and perhaps the best understood of all the organic diseases of the liver, is supplicative inflammation, and to the consideration of this subject I intend to devote the following essay.

Simple however as it may at first sight appear in its nature, it has in common with all hepatic diseases a sufficient amount of uncertainty to render it worthy of consideration. The doubts which hang over the mind of the physician in his diagnosis and treatment, together with the conflicting views of the various authors who have treated of this subject, these alone in my opinion are the data on which the essay to proceed.

And not vague is our knowledge respecting the pathological changes of structure and their causes.

In the following remarks I propose to consider first the various causes which seem to give rise to supplicative inflammation of the liver, and the manner in which these causes operate.

Second. The alterations of structure which take place.

Third. The symptoms which in the living body are diagnostic of the disease.
Robinet and other pathologists have divided hepatic abscess into two great Claps, namely, Hepatic and Metastatic. The first depending on inflammation of the liver, unconnected with diseased state of other parts, and resulting from a morbid condition of the organ itself.

The second arising from poisoning of the blood carried through the liver from Perforant collections in other situations.

Until lately all those fatal inflammation of the liver terminating in abscess, as common in tropical countries, were referred to the first of these heads; but Dr. Budd has shown, in his galtonian lectures, that it is at all events probable, that a large proportion, if not, (as he seems to think) all of these may be reduced to the second or metastatic Clap.

It had often been remarked the concurrence in the same patient of Hepatitis and Bowel Complaint; but it was commonly supposed that the latter depended on some derangement of the biliary secretion. Amicely among others seems to have mistaken the most common relation between the two diseases. In his work on the Diseases of India he remarks, "In Hepatic disease terminating in abscess, and complicated with dysentery both the small and large intestine become diseased first functionally
"and then organically, and the patient dies generally of the organic changes produced in the large intestines, frequently before the abuse makes its way either externally or into any other organ. In many cases of hepatitis complicated with dysentery, more particularly when the hepatitis presents a chronic character, the termination of the inflammation is accelerated if not altogether produced, by the sudden arrest of the dysenteric symptoms. In many other cases the hepatic diseasae is not apparent until the dysenteric symptoms are established. But although the disorder of the liver was not evident, or did not excite attention while the bowel disease was urgent, we are not therefore to infer that it did not then exist. On the contrary I believe that in most of the instances of this description the liver was the original seat of the mischief, which only became more apparent when the consequent disorder was abated."

When we look carefully into the cases from which annexed streusis this conclusion it appears scarcely a sur- curousable one. The more we roken and consider the peculiarities of the circulation of the organ, and the cases which give rise to secondary atrophies in it, and other organs, after surgical operations.
Dr. Budd again adopts an extreme view, and holds that there is no such thing as 6th Rhetoric constitution inflammation of the liver excepting, such cases, where there has been direct injury, as from a blow.

He believes that all those cases apparently toxicous, are secondary to alterations of the intestines or other collections of fluid, giving rise to phlegmasia. and that the purulent globules be formed, mechanically stop the capillaries, thereby lighting up inflammation in the part.

Mrs. Anneley has tried to arrange the three different classes to agree with this own theory. 1st where the obstetric led the accidental priority; 2nd where the two affections were conscious; and 3rd where the hepatic disease was first complained of.

The first is unquestionably of great importance in illustrating this doctrine. With respect to the second and third she supposes the obstetrical to occur accidentally while there is a disordered state of the liver, while in these cases Anneley believes that the obstetrical is caused by an increased flow of unhealthy bile in the first stage of hepatic inflammation.

Dr. Budd argues that if the bile were the cause of the intestinal irritation it would affect that part it first came in contact with, namely, the
Amodenum. This objection however is dearly valid, for the amount supposes that the surface with which the bile is continually coming in contact, is capable of resisting its much greater extent irritative effects.

Nor is there any marked difference in the hepatic symptoms before and after the suppuration of the thyreopydrus, to indicate the existence of a new lesion, so much more serious in its nature than our functional derangement.

In this as in many other questions between two extremes, the medium claims to come nearer the truth than either. Although undoubtedly Dr. Bucholz has most antecedently shown, the true relation existing between dejecting and hepatic abscess in a large proportion of these cases, still the appearance to have been too exclusive in endeavouring to reduce them all to some thing for in many it is evident that the hepatic inflammation is the primary, and in some the colic disorder, and there seem nothing very unreasonable in supposing that if the bile be secreted in large quantity, and it may be altered in constitution, that the intestines, particularly the lower end of the ileum and the colon, where it will remain longer in contact with the mucous membrane, will thereby be irritated so as to give rise to local com-

plain.
The other form is of hepatic abscess or that which seems to arise from inflammation primarily in the liver is of much scarcer occurrence than was at one time supposed. It is apparently much more except in tropical countries where it is probably connected with increased functional activity of the organ caused by too high a temperature and too nourishing a diet for the oxygen content.

The exciting cause is most commonly sudden exposure to cold.

I may mention an instance which my late good friend Dr. Martin in the sixth edition of Dr. Johnson's works on tropical climatic. The first is that of a young magistrate of Calcutta, who became suddenly ill while on board the ship. He died in ten days after he was, and in post-mortem examination several abscesses were found, averaging from the size of an orange, to that of a common bean. Now in this case nothing is heard of bowel complaint, but even if it had existed it is by no means probable that it would have gone on to ulceration, and then kindled up secondary hepatic abscesses all in the chest. 

Space often allows: but in all it is at all likely that it could have existed before that time as acute dysentery would by no means be an insurmountable accompaniment to a hep abscess.
The other case is that of a young staff officer, who was seized with a chills and fever, while driving on a cold night after leaving a heated bathroom. This was followed by slight pains; he continued at this hectic for six weeks, when he consulted Dr. Martin, believing himself to be consumptive; at that time his respiration was quick and his pulse rapid; he had profuse respirations at night. He died a fortnight afterwards; and the entire substance of the liver was found converted into a large cyst, filled with pus. This as in the former case we mention as unable of operation, and it is quite conceivable that he might have continued on duty, though labouring under incipient hepaticasis but not probable that he could have done so if suffering hepaticasis, nor is it probable he would have gone to a ball if the box at that time afflicted with that condition.

Most probably uncomplicated inflammation of the liver does not often terminate in suppuration, being more amenable to treatment than the secondary inflammation, where a specific poison exists in the blood, and by therapeutic means be removed from it.

Indeed it is very possible that some of the diseased states of this organ known as fatty, Sarcoïd, ophthalphie, &c., may merely be the consequence of the
some state of inflammation, which ends in acute, and differing in intensity, and is modified by circumstances.

Suppurative inflammation of the liver may be lighted up, or caused by direct injury to that organ; it may be by a blow, or direct injury to its substance.

A case of rather an unusual character belonging to this class occurred in the Infirmary this winter, the chief particulars of which I may mention.

Walter Samuel, a porter aged 31, was admitted on the 9th of December under the care of Dr. Andrew to Ward 10. He had been of a robust habit of body, but much addicted to drinking. It was ascertained that about seven years ago, he had received some injury of the head from a fall.

In the course of the winter of 1850 he was affected with severe pain in the stomach, which afterwards shifted to the right hypochondriac. Two months previous to admission this pain had become exceedingly severe. In the month of August last symptoms came on and lasted for about a fortnight.

About three weeks before admission he was seized with an extremely acute pain in the head, at first frontal, but afterwards chiefly confined to the occiput. It was not until three days before admission however, that he was compelled to take to bed, being unable to walk about or even to raise his head from the
pillow. She had the paralysis of any part of the body, and appeared to be quite intelligent and able to answer questions readily. She died very suddenly, another of the patients in the ward had been to his bedside, and had returning a few minutes afterwards, to give him his breakfast, when he was found to be dead.

On post-mortem examination, it was found on removing the liver that a small fish bone was lying at the lower and back part of the right lobe, the bone was about two inches in length; its exact situation was unfortunately not ascertained, from its not being observed till the liver was nearly removed from the abdominal cavity, but so far as I could see, about one half of it was embedded in the hepatic tissue, while the remainder lay in a small groove and immediately covered by the peritoneum. Immediately under this in the substance of the liver, but apparently not in direct connection with it, there was a small abscess of very irregular form, and about the size of a hazel nut, its walls were of no distinct figure, and it was in part cicatrized. The rest of the liver was normal.

The lungs were healthy. The right side of the heart was dilated. The blood in the veins was very thin. Several ulcerations were observed towards the upper part of the oesophagus. The stomach presented no abnormal appearance, but in the duodenum a small ci-
Catarrh was found like that which might have followed a perforation. The remainder of the intestine were healthy, as well as the rest of the abdominal organs.

On removing the small pelvis, a discoloured spot was seen in the upper and anterior part of the right hemisphere, about the size of a walnut, which corresponded with an abscess in the cerebral substance.

An abscess was found in the posterior portion of the left hemisphere, another in the left lobe of the cerebellum; and on cutting up the brain another small one of the size of a pea was discovered on the opposite hemisphere on the same side. The left ventricle contained about an ounce and a half of fluid, the right about two ounces.

I much regret that the hepatic lesion in this case was not more carefully examined, but the pathological history of it I believe to have been this, that the blood was ulcerated through the coats of the diaphragm, then passing into the substance of the liver, that it there gave rise to an abscess from its irritation, and that latterly it had gradually made its way to the surface of the organ.

The abscesses found in the brain I believe to have been secondary to the purulent collection in the liver.

It is somewhat remarkable, that the lungs should have been unaffected; however, analogous cases do occur, where metastatic abscesses take place in the liver.
after surgical operations, though the lungs are not affected, and the whole history of this case bears out this conclusion.

With regard to the second or metastatic type of hepatic abscess, it may be divided into subdivisions, namely, those succeeding in surgical operations or rather in purulent collections in some part of the body from whence the blood is carried directly to the heart and lungs; and second, those which succeed purulent collections in parts connected with the portal circulation.

It is of considerable importance in regard to the prognosis of the case to draw this distinction, for in the former type hepatic abscesses under the first of these circumstances, without any grave constitutional symptoms, and abscesses in other organs more particularly in the lungs, whereas in the second set the liver is generally the only part affected metastatically, and the primary abscess is probably in the majority of cases the more fatal of the two.

It is well known that after surgical operations and injuries followed by the formation of pus, a peculiar train of symptoms occurs not infrequently, to which the various terms of pyæmia, surgical fever, phlebitis, &c., have been applied. It seems probable that some forms of the canibal fever of child-bearing women are of the same
nature. As might have been anticipated
these arise most frequently in the linings being
that in these is the first Capillary System
through which the blood has to pass, but
occasionally Hepatic Impregnation also takes
place, often accompanied with the same
disorder of the liver.

Councillors observed that
these abscesses most generally followed in-
juries of the bones, and he suggests that the
claws cannot easily contract in their
long canals, and are consequently more
apt to admit the presence of pus which
which may be formed in the parts.

As was already mentioned Dr. Randol first pointed
out clearly the very frequent occurrence of hepatic
abscess during the course of acute dysentery, though
it would appear that the had gone rather far in rest-
ching all those apparently idiopathic forms to be expla-
ied by his favourite hypothesis.

The abscessiform ulcerations which generally
in granulation formation are most frequently situated
in the lower part of the small intestine and the com-
encement of the large; sometimes also higher
up in the small intestines, in the stomach and gall
bladder. There is not in this condition in prevalent in-
fection after surgical operations such an amount of con-
institutional disturbance, probably because the parts involved are not of such importance in the vital economy. But in some cases, as when other organs become affected secondarily in respect to the liver, then the serious nature of the symptoms and the danger to the patient become much increased. Case 99, of amenity, and the case recorded at page 12, are instances of this.

Dr. Budd referred to the non-occurrence of these abscesses in connection with the ulcerated state of the intestines in connection with the ulcerated typhoid fever; with the ulceration of the duodenum after external burns; and also their rarity in cases of foul complaint accompanying phthisis. In these instances the fact may be explained by the ulceration being of a peculiar type, that is pretty certain in the cases of typhoid, and very probably all in the other forms. Besides, the so-called typhoid deposits also occur in the liver and intestines were given there would undoubtedly terminate in abscess, as indeed does sometimes happen according to Retierausky.

In the case of typhoid it is well known that there is an acuteness of healthy inflammation, and it may be that the liver is not so apt to take or that type prevalent in tertiarular patients. Of the ulcerations of the duodenum after external burns, besides their probable specific nature a conclusion can scarcely be drawn from the text as recorded by Dr. Curling in his medical-chirurgical transactions.
actions — for certainly abscess of liver does not happen in anything like one out of every ten cases of dysentery.

Dr. Budd likewise remarked the rarity of hepatic abscess as a consequence on simple ulcer of the stomach.

Some very curious cases are recorded by Annely, where the disease of the liver did not seem to be connected with any disorder of the bowels, farther than singular abnormalities in size and position — Cases 80, 81, 83.— Although possibly this might have arisen from former attacks of dysentery it could scarcely have been after recent a state as to give rise to these secondary abscesses.

Surgical interference with parts whence the deep parts derive their blood may also be followed by the same result as ulceration of the intestine from dysentery, for example after the operation for prolapse or fistula, they may also succeed to the operation for strangulated hernia, but then it will more likely depend on ulceration of the strangulated parts previous to the operation, and not on the operation itself.
The next part of the subject to be discussed is how the liver is affected secondarily by the existence of purulent collections in other parts of the body.

The older authors thought it depended on some obscure influence which they termed sympathy, and indeed even up to recent times the same vague notion seems to have haunted the minds of writers in connection with metastatic abscesses. 

Again it was supposed that the pus previously formed in other situations, was absorbed by the veins and merely deposited in the affected organ, and although as we shall hereafter find this perhaps not very far from the truth it is not absolutely true.

After John Hunter clearly pointed out the existence and nature of phlebitis there was a tendency to suppose that the secondary abscesses were merely a part of the general affection and that before they could arise the inflammation must extend to the blood vessels and capillaries in the part.

A more limited view has been recently held, namely that phlebitis is excited first in the neighbourhood of the primary lesion, and that the pus so formed comes or other, stimulates the first capillary cystern through which it passes as to lead to supplicative inflammation.

It was likewise thought that although it was difficult to imagine that pus could be absorbed until a vein happened to be elevated into, still that the corpus
portion of the pus might be absorbed, and that that would be sufficient to give rise to the secondary abscesses.

Bobillot however found, that although rare
by the serum of pus, and more especially in the form produced a species of inflammation in the organs, when injected into the defects of a living animal, still, that it was by no means certain, and that on the contrary, if he carefully washed the pus corpuscles from the more liquid part and introduced them in sufficient quantity, that the experiment resulted in the formation of abscesses in all respects like those following surgical operations.

From the numerous experiments which have been performed, more especially those of Cruveilhier and Bobillot—there can remain no doubt, that secondary abscesses depend on the presence of pus in the blood:

and it would also seem probable that in some cases this depends on the simple entrance of pus into a blood vessel, while in others it is formed inside a vein from the suppuration of its walls as a result of phlebitis.

Dr. Budde supposed that the pus corpuscles, from their large size mechanically plugged up the capillaries of the part to which the blood was carried, and that they thus acted as foreign bodies and excited inflammation. Leaving aside other serious objections which might be raised to this doctrine
it is sufficient to state that it is not correct, from the very obvious reason that the white corpuscles of the blood which must be continually passing through these capillaries are quite as large as these corpuscles, if not larger.

Rokitansky again believed that there is a morbid excrecence in the blood, which when an evaporation is poured out by the capillaries, causes this excretion to undergo the various metamorphosis in the formation of pus.

I do not think it necessary to enter in detail on the numerous experiments of Gaspar, Cruveilhier, Caillet and Ducrest, Eroupean, Lichard &c which have been so often commented on, but shall merely consider the general results which these experiments point to.

As was before stated it is evident the presence of pus in the blood gives rise to visceral abscesses, and that the secondary abscesses occurring after surgical operations, depending on the existence of pus in the blood, circulating through the organ to be affected. It has also been found that other substances when introduced into the circulation produced similar results. For example Cruveilhier found that mercury, ink &c did so, and that in the case of the mercury a small globule of it was found in the centre of the abscesses. Now in the dead body
these matters thus with ease through the finest capillaries. Cruveillier concluded that they as well as pus lighted up a supplicative inflammation of the capillaries. This, however, involves much uncertainty, but to mention its setting aside our preconceived notions respecting inflammation as connected with capillary arrangement.

Such was the state of this question, previous to the publication of Mr. Henry Lee's work on Phlebitis and Purulent Deposits.

Mr. Lee has pointed out that pus when mixed with blood, either in the living body or out of it, has the power of causing it to coagulate, the same thing the state happens on the introduction of mercury and other foreign matters. He had also shown when a coagulum is formed in a vein that it organically adhered to its walls. In this manner the pus is arrested and prevented from further intermixture with the blood, but under certain circumstances the blood loses this property of coagulation to a certain extent and that then it circulates more or less in the lymphatic.

This will account for the irregularity in the results of former experimenters in regard to the formation of secondary abscesses, for if the blood retained its full power of coagulating, the pus introduced would be arrested at its very outset and never reach a capillary system. But on
The other hand if the blood has lost this power or if the pus were introduced in very large quantity, then it would reach some more distant part.

It seems also probable that if the pus does circulate as far that it will congeal the blood in the vessels or even in the capillaries of the organ secondarily affected, that this conglutinum may itself conglutinate and involve the surrounding textures so as to form an abscess, or that from the blocking of a certain number of the capillaries the normal standard of nutrition existing between the textures and the capillaries is disturbed so as to produce supplicative inflammation.

This theory explains the occurrence of those secondary abscesses scattered through an organ, and having healthy texture intervening, for if it were as Krotzinsky says a "morbid effusion" then no one part of the organ ought to be affected more than another.
A Jeup of the liver has been said to Injure on intermittent and remittent fevers: in these cases it has however a more immediate relation to the hepatic symptoms accompanying these diseases.

The administration of mercury has been employed to produce hepatic inflammation. It is not at all improbable that it may also, by the over-erection of the natural functions of the organ, but that I am not aware that this ever terminated in suppuration.

The morbid changes of structure which occur in suppuration inflammation of the liver, commence by capillary congestion of the acini consequent ly these become increased in bulk and their structure at first, but as the disease advanced they gradually lose their identity from the intervening parenchyma becoming involved.

In the hepatic inflammation this takes place in a circumscribed space, but in those well marked secondary affections the inflammation parts are scattered throughout the hepatic texture, leaving healthy portions between them, these the well known multiple character of the abscesses.

In an abscess of short duration the textures immediately surrounding are softened and
discoloured by the infiltration of pus, while the remainder of the discolor is of a darker Colour than natural; but after a short time this Capillary Convection diminishes, and the circulation regains some of its normal Character, while that portion in immediate Contact with the abscess becomes broken down, and mingled with it, till the suppuration has extended to the limits of the affected part and there meeting with the healthy Stuctures of the liver the pus probably excites the evuluation of coagulable lymph. This lymph will be frequently disintegrated until at length one of those evulations being partially protected by the half broken down lymph internal to it, gains time to get so far organized as to resist the suppuration process.

By this means a fibrous cyst will be gradually formed the abscess, and in this condition it may remain for years causing but little disturbance. And indeed its content may become absorbed, and merely a cartilaginous like cicatrix will indicate what was once the seat of an abscess. The pus however must undergo important changes before it can be removed; it must entirely lose its specific characteristics, it would give rise to the same serious symptoms as...
Examine a liver which has been
examined by multiple abscesses and find their walls
very irregular and pitted and frequently there
are fistulous passages connecting two neighbouring
ones, showing well their compound origin.

The contents of a recent hepatic abscess
consist of pure straw coloured pus, but when
it has long existed, a bile duct may be liberated
crossed, and to pour its contents into the ab-
seep. This however does not seem a very fre-
guent occurrence.

Sometimes there is but one large abscess,
but most commonly there are several, and frequently
the liver is found completely studded with them.

Their most frequent seat is the right lobe, in
rare cases the whole lobe is almost converted
into an abscess. In one instance mentioned in the
was said to contain up to 100 a quantity than this
three pints of fluid.

When an abscess approaches the sur-
face of the liver, it generally excites adheine inflam-
ation in the peritoneal covering by which that
membrane becomes agglutinated to the surface
opposed to it. By this means the abscess may
open externally through the abdominal parietes, or it may empty itself into the stomach, or colon, or it may perforate the diaphragm, and communicate with the pleura, lungs, or pericardium. Very often however it bursts into the cavity of the peritoneum. Sometimes the pus is discharged by the gall duct. It has also been found to have escaped into the berna cana in rare instances.

There is no one symptom which is pathognomonic of hepatic inflammation either before or after suppuration has taken place. Nor indeed is it easy, even where a train of symptoms which unmistakably indicate its existence and although we could do so it is but seldom we should see it realized in actual practice. The patient often lies in the hands of the practitioner, without the actual seat of the mischief being suspected, and the patient himself is sometimes so little alarmed by his complaint that he does not apply to the physician until the disease is beyond his skill.

Pain in the right side, with a bellow of fulness over the region of the liver, are the local symptoms of most frequent occurrence.

By manipulation and percussion the mass may be found to exceed its natural limits, in proportion to the seat and extent of the inflammation
ion. There is also inflammatory fever in the first stage of the disease, and there may be jaundice.

The pain in the side is a very fallible guide, it would seem to depend principally on the heat of the inflammation. The liver, like other glandular viscera, does not appear to be very sensitive; consequently when the lesion is deep seated there will be little or no pain, but should it be near the surface or of great extent, so that the peritoneum will neither be involved or hurt on the stretch, then the pain will likely be severe.

The jaundice depends entirely on the heat of the inflammation, and it will only take place, when a bile duct is interfered with and obstructed, so that absorption of the bile already secreted takes place results.

Pain in the shoulder has been noticed from the earliest times, and was known to accompany hepatic and dyspeptic disorders. It has been called in question by modern authors (Louis and Audral) but although it is by no means so general as was at one time supposed it is undoubtedly frequent in occurrence, it exists in other disorders of the liver accompanied by enlargement, and indeed where any tumour of considerable size is found in that part of the abdomen. Dr. Puddell mentions that it accompanied abdominal aneurism in a case under his ob-
Sensation. It probably depends on pressure on the fibres of some nerve which conveys its sensations to the same nervous centre as certain sensory filaments from the shoulder, it may be the sympathetic. There is no local disease at the shoulder, but the pain is often increased on pressure.

Dry cough, vomiting, and rigidity of the abdominal muscles, especially the rectus abdominis, which is sometimes intensely hard, are among the most frequent of the remaining incidental symptoms, occurring in the course of hepatic inflammation: these have been explained by the very unsatisfactory word sympathetic. They are evidently connected with reflex or visceral sensory action.

The cough, unless any pulmonary disorder coexists, depends on compression of the lung by the diaphragm which is pushed upwards by the enlarged liver, in fact it arises under precisely the same circumstances as the cough in pleurisy.

The vomiting is caused by pressure on the stomach in exactly the same manner, and so with the abdominal tension which will exist where there is irritation of any of the other abdominal viscera.
When suppuration has taken place a marked change in the symptoms occurs. The tic supposes the place of the inflammatory focus.

When the abscess empties itself into the neighbouring cavities before indicated other sudden supervene. If into the peritoneum, peritonitis is lighted up, which generally carries off the patient already so much exhausted; this indeed may occur before the abscess has burst from the irritation of the hepatic portion of the diaphragm.

If the abscess should incorporate the diaphragm and open into the pleural cavity then a pleurisy will be the result, but adhesions of the opposed diaphragmatic and pulmonary surface of both very frequent occurrence, besides the chance of adhesions, inflammation extending this when the abscess is pointing, that this is by no means a common result. Much more generally the abscess finds its way by means of the adhesions into the lung and its contents are thereby eliminated by respiration.

Pointing of pus or discharge of it by the bowels will occur respectively where the abscess communicates with the stomach or colon.

The above remarks apply to idiopathic inflammation principally. The other or metastatic abscesses are much more insidious in their nature.
and in well marked cases, as after surgical operations, they are generally accompanied with a lymphoid type of fever, arising notwithstanding, from the disordered state of the blood. It may be that this partly arises in diminishing the blood, but I think that another and much more important reason exists, namely that the inflammation of it may be called, differs widely from the ordinary acute inflammation. We look for a more plain example of this the Case of the lungs. In Pneumonia a considerable extent of the lung undergoes a serious amount of the organization of the formation of pus, so as to incapacitate there or help from performing its functions. In grief it is inflamed. But in a lung affected from purulent infection, there is no general disease of the organ, it is confined at first to a small blood vessel, or it may be to a capillary, the evil incites from this point perhaps byly be the growth of the pus, involving the surrounding textures, and there is nothing in the appearance of these secondary abscesses which would lead us to suppose that a genuine inflammation that existed first, were not ominous that appeared with the preconceived notion of a certain series of phenomena taking place previous to the formation of pus. It is true there is a certain amount of congestion around the abscess and if then the many of
The tubercular part of the organ will be more or less completed, but this I suspect is merely a consequence of more blood being thrown into the healthy parts to compensate for the loss of those by destruction and blocking up of the vessels which formerly occupied the part of the lung which is now the seat of an abscess.

It is well known that surgical patients die frequently afteroperations without the surgeon suspecting the existence of secondary abscesses, and yet several of these may be found after death in his lungs. Perhaps he had complained of some dyspnea, and it may be that this under a low typhoid fever, which is likely to break out in the cause of death, though not as distinctly as to support the demand of concealing the pulmonary affection, this seems to derive its importance not from its nature but from the extent to which it interferes with the function of the organ, consequently a few metastatic abscesses in a lung, do really not produce such interfering symptoms, and therefore do not immediately do such a grave injury as a severe attack of bronchitis.

Although abscess of the lung is not by any means common in this country, such
do present themselves. During last winter, season 1850-51 two well-marked examples occurred in connection with ulceration of the intestines in the jaunary. The first of these was that of Patrick O'Sullivan, who was under the care of Dr. Doughlas in Ward IV. He was admitted on the 24th of November 1850. He had been attacked rather suddenly the days before with diarrhoea, griping pains in belly, vomiting and tenesmus. These symptoms had continued twice or thrice since that time. There was tenderness in the right iliac region, and along the course of the colon.

On the 13th he had bilious vomiting, and an increase of the diarrhoea. On the 18th the purging had abated, and the tenesmus still continued, and in addition, the belly was full, and tympanitic, and the biliary chyle p. was observed to be considerably increased. There were also great pain and intolerance of pressure over the region of the liver. It gradually increased, and died on the 21st.

On examination the liver was found to extend 2 1/2 inches below the right costal cartilage, and in the right lateral region one inch below hypochondria.

The peritoneum contained some greenish yellow turbid fluid, with flakes of semi-consistent lymph granular matter. The liver was traversely adherent to the surrounding tissue, and to the diaphragm.
There were numerous fluctuating points, over the surface of the liver, and as the organ being raised, a quantity of thick pus flowed from the right lobe, and the lobules were stretched.

The hepatic tubercules were uniformly softened, the being cut into the liver presented an immense number of nearly globular cavities from 1/16 inch to 3 inches in diameter, containing abundant pus arrived with flocculent debris of tissue, floating from the walls of the cavities. Some of these were surrounded by a thin fibrous cyst. There was marked congestion of the interlobular lobule although the liver was more or less generally infiltrated with fluid. Large ulceration abscessation extended from the iliacospihal chord for 3 or 4 inches below the basin. The mucous membranes of the first two feet of the large intestine presented superficial congestion and plentiful ulcerations, there were mostly transverse in their character and in some instances extended completely through the muscular coat, and many containing large ulcerated loops. The remainder of the great intestine and rectum also presented some ulcerated points besides some elevated portions of the membranous anal canal presenting the appearance of a saucer yellow to black spot unlike the tubercular deposits found
in the same situation.

The other case was that of Ellen Orae grilliskying who was admitted into Ward XI under the care of Dr. Alison, on the 4th of December 1860. She had been admitted on the 3rd of November with a shivering and a vomiting of Greenwich Matter attended with pain in the epigastrium, she had been vomiting every day up to the time of admission.

She was at that time six months gone with child, and for a week previous to the shivering she had been troubled with lassitude, headache, and general lassitude. When she was admitted, she appeared very much lassitude, thin, cold, and clammy and suffering from pain in the epigastrium and right hypochondrium, the pulse was small and weak. There was great tenderness, increased in pressure in the region before mentioned.

She aborted on the birth. She was treated with opiates &c. and once I think with a laxative in consequence of her obstinate constipation which lasted all the time she was under treatment.

She continued in a low epithelial condition until the morning of the 10th when she died.

At post-mortem examination the peritoneum lining the abdominal walls was found adherent by adherent by soft and recent lymph, to both
liver of the liver. The Coccum was also adherent by recent lymph to the surrounding parts.

The liver on removal broke down & a consid. erable extent, and a quantity of bloody pus escaped into the peritoneum. Externally the organ presented a generally diffused, rather deep purple colour, and a number of yellowish streaking prominences, having a diameter of from one to three inches. On section the liver showed numerous abscesses in every part of its structure, generally globular but in some instances these were confluent. They abraded from the size of a barrel to that of an orange, and contained a cream coloured or slightly yellowish liquid fluid. The abscesses were surrounded by an ill defined hyogenic membrane, having follicles of a dirty yellowish colour on its internal surface. The intervening hepatic tissue was of a deep purple colour, having a mottled appearance from the greater or less intensity of tint.

The lower end of the small intestine was much thickened in its coats, and its mucous surface had a granular aspect, along with numerous irregular stunted villi.

The mucous and submucous surface of the Coccum were much thickened for this thickness below.
the ilio-coccygeal canal. There were numerous irregular and extension ulcerations, generally extending quite through the transverse muconous membrane, and forming greenish discoloured thought in contact with the cut mucous membrane. The first one was over three inches was entire, but thorned and thickened. These discharging ulcers did not extend beyond five inches of the great intestine, but below this the mucous membrane had much of the same appearance as that mentioned in the ileum.

The second colon on being cut disclosed some clots of pus. It could not however be accurately ascertained where this came from, but from the direction of the clots it may be concluded it had been contained in some cysts.

No traces of any large corpora nuda could be detected in the portal blood.

In both these cases there can be no doubt that the hepatic lesion was secondary. In both there was extensive ulceration of the bowel of a discharging character. In both, the observers were of that multiple character as significant of these secondary affections. And above all there existed in both that low typhoid, formerly indicated, although undoubtedly the parametritis might in a great measure account for this; still the very existence
of this, combined with the appearances after death, are sufficient to warrant the conclusion.

They are both instruction in so far as they shew, how much the hepatic disorder may be concealed by other symptoms, especially the jaundice. But although of course it is of importance for the diagnosis and prognosis of the case to ascertain the exact state of matters, it would little affect the treatment, for in reality the liver affection is but a part of the general disease.

We would here look in vain for the characters of suppuration, inflammation of the liver. Nature in this instance seems in many other instances, placed most prominently before us, the elements of the disease, most dreadful and most deserving of attention and treatment. Surely if non-elimination of bile be a cause of jaundice, it should have existed in these cases, for a more complete obstruction of the liver we could scarcely expect to find. I have no doubt that its absence depended, as I formerly stated, on the situation of the abscess and from their not obstructing the gall ducts. In fact according to what I believe all should and looks for jaundice so much in these as in cases where the hepatic lesion was lip in extent, for the very evident reason, that there is lip liver left to secrete bile, and lip being
secreted, there is left to be absorbed.

In the case of enteric fever, the bowel disease was masked by constipation while the man in the Infirmary, from the character of the evacuations it was evident that it must have existed for a considerable period.

I shall merely repeat in conclusion what I said before, that it is easy conviction that there is a distinct difference between cases like these of well-marked enterorrhagia abscess and the tropical ones, like some of those figured by Ziehm which I have exhibited in this lecture. In the latter there is room for treatment, and considerable chances of recovery in their uncomplicated nature and the comparative unimportance of the affected organ. But in the former we have to deal with the general disorder and not to single out the liver for treatment when that is in reality of far less consequence than the rest of the enterorrhagia.