The Morbid Anatomy in Some of the Most Important Parts of the Human Body

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Scirrhus and Cancer of the Stomach

This affliction of the stomach is not very uncommon towards an advanced period of life, and I think is more frequently met with in men than in women. This may probably depend upon the greater intemperance in the one sex than in the other.

Scirrhus sometimes extends over almost every part of the stomach, but most commonly it attacks one part. The part which is affected with scirrhous has sometimes no very distinct limit between it and the sound structure of the stomach, but most commonly the limit is very well marked. When scirrhus attacks a portion of the stomach only, it is generally towards the pylorus. The principal reason of this probably is, that there is more of glandular structure in that part of the stomach than in any other; and it would appear that glandular parts of the body are more liable to be affected with scirrhous than other parts.

When the whole stomach, or a portion of it, is scirrhous, it is much thicker than usual, as well as much harder in its texture. When the diseased part is cut into, the original structure of the stomach is frequently marked with sufficient distinctness, but very much altered from the natural appearance. The peritoneal covering of the stomach is many times thicker than it ought to be, and has almost a gristly hardness. The mucular part is also very much thickened, and is intersected by numerous membranous septa. These membranous septa are, probably, nothing else than the cellular membrane intervening between the fasciculi of the muscular fibres, thickened from disease. The inner membrane is also extremely thick and hard, and not unfrequently somewhat tuberculated or irregularly elevated towards the cavity of the stomach.

It frequently happens that this thickened mass is ulcerated upon its surface, and then a stomach is said to be cancerous. Sometimes the inner membrane of the stomach throws out a process which terminates in a great many smaller processes, and produces what has been commonly called a fungous appearance.

It also happens that the stomach at some part loses entirely all vestige of its natural structure, and is changed into a very hard mass, of a whitish colour, with some appearance of membrane intersecting it; or it is converted into a gristly substance, like cartilage somewhat softened. The absorptive glands in the neighbourhood are at the same time commonly enlarged, and have a very hard white structure.

Circumscribed Scirrhous Tumours in the Stomach

I have seen several instances of a scirrhous tumour being formed in the stomach about the size of a walnut, while every other part of it was healthy. This tumour has most fre-
requently a small depression near the middle of its surface. While it remains free from irritation, the functions of the stomach are probably very little affected by it; when, however, it is irritated, it must occasion very considerable disorder in the functions of the stomach, and may perhaps lay the foundation of a fatal disease.

Cancer of the stomach is attended with a sense of pain in that organ, which varies a good deal in its degree in different individuals. What is swallowed is commonly rejected by vomiting, and there is frequently thrown up a dark coloured fluid, which has generally been compared to coffee grounds. The patient becomes at length emaciated, and the countenance sallow; the pulse at the beginning of this dreadful complaint is natural, but towards the close of it is frequent, and this is accompanied with the usual symptoms of hectic fever. Where the person is much emaciated, and the cancerous swelling is situated near the pylorus or along a part of the great curvature of the stomach, it may be felt, if its bulk be considerable, by a careful examination with the hand in the living body.

Scirrhus and Cancer of the Intestines

Scirrhus is a disease which takes place much more commonly in the great than in the small intestines, but the latter are occasionally affected by it. I have seen a scirrhous tumour, and a cancerous ulcer in the duodenum. In the great intestines, at an advanced period of life, scirrhus is not uncommon; every portion of this intestine is not equally liable to be affected by it, but it is to be found much more frequently at the sigmoid flexure of the colon, or in the rectum, than any where else, which perhaps may depend on the following circumstances. There is certainly more of glandular structure in the inner membrane of the great intestines towards its lower extremity, than in any other part of it, and this sort of structure has a greater tendency to be affected with scirrhus, than the ordinary structures of the body: the gut, too, is narrower at the sigmoid flexure than at any other part, and therefore will be more liable to be injured by the passage of hard bodies; these by their irritation, may excite the disease of scirrhus in a part which was predisposed to it.

The scirrhus sometimes extends over a considerable length of the gut, viz. several inches; but generally it is more circumscribed. It exhibits the same appearances of structure which were described when speaking of scirrhus of the stomach. The peritoneal, muscular, and internal coats are much thicker and harder than in a natural state. The muscular too is subdivided by membranous septa, and the internal coat is sometimes formed into hard irregular folds. It often happens that the surface of the inner membrane is ulcerated, producing cancer. Every vestige of the natural structure is occasionally lost, and the
The disease of which, sides gut this altogether as to be almost entirely obstructed. The obliteration, or stricture, would sometimes appear to be greater than in proportion to the thickness of the sides of the diseased gut: this most probably depends upon the contraction of the muscular fibres of the gut, which, although diseased, have not altogether lost their natural action. Where the passage is very much obstructed, the gut is much enlarged immediately above the obstruction, from the accumulation of the contents in that part of the intestine. While this disease is going on in a portion of the intestine, adhesions are formed between it and the neighbouring viscera, and the ulceration sometimes spreads from the one to the other.

When the great intestine is attacked with scirrhus, the disease has commonly made some progress, before it is much attended to by the patient. At first there is but little pain in the part affected, and the patient only observes that he is costive, or that the stools pass with some difficulty. When the disease is more advanced, a considerable pain is felt, more especially in passing a stool, and there are occasional sympathetic pains about the os sacrum and hips. When the stools are examined, they are commonly found to be narrow, to be more or less flattened, and they are sometimes besmeared with mucus, pus, and blood. The pulse at the beginning of this disease is natural, but towards its close becomes accelerated. In advanced stages of the disease, the countenance is sallow, the strength is much impaired.

Common Tubercle of the Liver

One of the most common diseases in the liver (and perhaps the most common, except the adhesions, which we have lately described), is the formation of tubercles in its substance. This disease is hardly ever met with in very young persons, but frequently takes place in persons of middle or advanced age: it is likewise more common in men than women. This seems to depend upon the habit of drinking being more common in the one sex than in the other; for this disease is most frequently found in hard drinkers, although we cannot see any necessary connection between that mode of life and this particular disease in the liver. It happens, however, very commonly, that we can see little connection between cause and effect in changes which are going on in every other part of the body.

The tubercles which are formed in this disease occupy generally the whole mass of the liver, are placed very near each other, and are of a rounded shape. They give an appearance every where of irregularity to its surface. When cut into, they are found to consist of a brownish or yellowish white solid matter. They are sometimes of a very small size, so as not to be larger than the heads of large pins; but most frequently
they are as large as small hazel nuts, and many of them are sometimes larger. When the liver is thus tuberculated, it feels much harder to the touch than natural, and not uncommonly its lower edge is bent a little forward. Its size, however, is generally not larger than in a healthy state, and I think it is often smaller. If a section of the liver be made in this state, its vessels seem to have a smaller diameter than they have naturally. It very frequently happens that in this state the liver is of a yellow colour, arising from the bile accumulated in its substance; and there is also water in the cavity of the abdomen, which is yellow from the mixture of bile. The gall-bladder is generally much contracted, and of a white colour, from its being empty. The bile, from the pressure of the hard liver upon the pori biliarii, does not reach the ductus hepaticus, and therefore cannot pass into the gall-bladder. The colour of the skin in such cases is jaundiced, and it remains permanently so, as it depends on a state of liver not liable to change. This is the common appearance of what is generally called a scirrhous liver: but it bears only a remote resemblance to scirrhus, as it shews itself in other parts of the body. I should therefore be disposed to consider it as a peculiar disease affecting this viscus.

**Large white Tubercle of the Liver**

Hard white masses are sometimes formed in the liver. They are often as large as a chesnut; but I have seen them both a good deal larger and smaller than this size. They are to be found near the surface of the liver in greater number, than near the middle of its substance: two or three frequently lie contiguous to each other, with a considerable portion of the liver, in a healthy state, interposed between them and a cluster of similar tubercles. They consist of a very firm, opaque, white substance, and are generally somewhat depressed, or hollow, upon their outer surface. The liver in this disease is frequently a good deal enlarged beyond its natural size.

These tubercles appear to be first formed round the blood vessels of the liver, as is seen in making sections of a liver in this state. While the liver is under such circumstances of disease, there is sometimes water in the cavity of the abdomen, and at other times none; the liver is sometimes tinged in its colour, from the accumulation of bile, and sometimes the colour of its substance between the tubercles is perfectly natural.

The kind of tubercle which we have now described, is much more rare than the other, and resembles more the ordinary appearance of scirrhus in other parts of the body. In one or two instances of it, however, I have observed a thick sort of pus, resembling very much the pus from a scrofulous sore; and therefore I am rather disposed to think that this tubercle may be of a scrofulous nature.
Soft brown Tubercles of the Liver

I have also seen in the liver a number of soft tumours, about the size of a walnut: they were principally situated at the surface of the liver, and consisted of a smooth, soft, brownish matter. This is a very rare appearance of disease: such tumours would by many be considered as scrofulous, but there is no strong evidence in support of this opinion; and there is certainly no resemblance between this sort of tumour and either a scrofulous tubercle of the lungs, or a scrofulous absorbent gland. About its real nature nothing satisfactory is ascertained.

Scrofulous Tubercles of the Liver

Tubercles are occasionally found in the liver, which bear a strong resemblance to the tubercles of the lungs; but this is a very rare appearance of disease. They have the same size, the same structure, and the same feeling to the touch, but are a little browner in their colour. In the only instance which I have seen of this disease, the tubercles were generally dispersed through the substance of the liver at pretty regular distances, and did not render the surface of the liver irregular, as in the common sort of tubercle. From their appearance and structure I cannot hesitate to consider them as scrofulous.

Liver flaccid, with reddish Tumours

I have likewise seen the liver much more flaccid in its substance than is natural, with reddish tumours, of considerable size, interpersed through it, which contained a thick sort of pus. I am inclined to consider this liver as scrofulous, because it was found in a person whose general constitution had strong marks of scrofula, and in whom also were found many scrofulous absorbent glands on examining the body.

Liver very soft in its Substance

The liver is not unusually found much more flaccid in its substance than natural without any other appearance of disease. It feels upon such occasions nearly as soft as the spleen, and is commonly of a leaden colour. This change must arise from a process which takes place through its whole substance, and seems to be what Mr. Hunter has called the interstitial absorption. By this process is meant, the absorbents removing insensibly the very minute parts out of the general mass of any structure in an animal body without ulceration. This state of liver is very rare, if ever, found in a very young person, and is most common in persons who are advanced in life.

Liver very hard in its Substance

There is a very contrary state of the liver, not at all usual, viz. when it is much harder than natural, and when cut into, exhibits no peculiar structure. Upon the surface of these livers, there is not uncommonly a thready appearance of membrane, disposed somewhat in a radiated form, and the lower edge is bent a
little forwards. This I believe to be the first step in the progress towards the formation of the common tuberculated liver. I have sometimes seen small tubercules formed upon a part of the surface of such a liver, which were exactly of the common sort. From this appearance, it is probable, that additional matter is deposited in the interstices, through the general mass of the liver, rendering it much harder, and that this matter, together, perhaps, with part of the ordinary structure of the liver, is converted into tubercles. This hardened state of the liver is sometimes accompanied with a beginning ascites, and sometimes is without it.

**Hydatids**

There is no gland in the human body in which hydatids are so frequently found as the liver, except the kidneys, where they are still more common. *Hydatids of the liver are usually found in a cyst, which is frequently of considerable size, and is formed of very firm materials, so as to give to the touch almost the feeling of cartilage. This cyst, when cut into, is obviously laminated, and is much thicker in one layer than another. In some livers, it is not thicker than a shilling, and in others, it is near a quarter of an inch in thickness. The laminae which compose it are formed of a white matter, and on the inside there is a lining of a pulpy substance, like the coagulable lymph. The cavity of the cyst I have seen, in one instance, subdivided by a partition of this pulpy substance. In a cyst may be found one hydatid, or a greater number of them. They lie loose in the cavity, swimming in a fluid; or some of them are attached to the side of the cyst. They consist each of a round bag, which is composed of a white, semi-opaque, pulpy matter, and contains a fluid capable of coagulation. Although the common colour of hydatids be white, yet I have occasionally seen some of a light amber colour. The bag of the hydatid consists of two laminae, and possesses a good deal of contractile power. In one hydatid this coat, or bag, is much thicker and more opaque than in another, and even in the same hydatid different parts of it will often differ in thickness. On the inside of an hydatid, smaller ones are sometimes found, which are commonly not larger than the heads of pins, but sometimes they are even larger in their size than a gooseberry. These are attached to the larger hydatid, either at scattered irregular distances, or so as to form small clusters; and they are also found floating loose in the liquor of the larger hydatids. Hydatids of the liver are often found unconnected with each other; but sometimes they have been said to inclose each other in a series, like pillboxes. The most common situation of hydatids of the liver, is in its

*Although the hydatids of the liver, and the kidney, have got the same name, yet most frequently they differ from each other. Hydatids, however, occasionally occur in the kidneys, which are precisely of the same kind with those of the liver.
substance, and inclosed in a cyst; but they are occasionally attached to the outer surface of the liver, hanging from it, and occupying more or less of the general cavity of the abdomen.

The origin and real nature of these hydatids are not fully ascertained, it is extremely probable, however, that they are a sort of imperfect animalcules. There is no doubt, that the hydatids in the livers of sheep are animalcules: they have been often seen to move when taken out of the liver, and put into warm water; and they retain this power of motion, for a good many hours after a sheep has been killed. The analogy is great between hydatids in the liver of sheep, and in that of the human subject. In both they are contained in strong cysts, and in both they consist of the same white pulpy matter. There is undoubtedly some difference between them in simplicity of organization; the hydatid in the human liver being a simple uniform bag, and the hydatid in that of the sheep having a neck and mouth appended to the bag. This difference need be no considerable objection to the opinion above stated. Life may be attached to the most simple form of organization. In proof of this, hydatids have been found in the brains of sheep, resembling almost exactly those in the human liver, and which have been seen to move, and therefore are certainly known to be animalcules. The hydatids of the human liver indeed, have not as far as I know, been found to move when taken out of the body and put into warm water; had this ever happened, no uncertainty would remain. It is not difficult to see a good reason why there will hardly occur any proper opportunity of making this experiment. Hydatids are not very often found in the liver; and the body is allowed to remain for so long a time after death before it is examined, that the hydatids must have lost their living principle, even if they were animalcules. The probability of their being animalcules, however, is very strong; and it appears even more difficult to account for their production according to the common theory of generation, than for that of intestinal worms. We do not get rid of the difficulty by asserting that hydatids in the human liver are not living animals, because in sheep they are certainly such, where the difficulty of accounting for their production is precisely the same. If any person should wish to consider hydatids more minutely, he will find an excellent account of them published by Dr. John Hunter in the Medical and Chirurgical Transactions.

Scrofulous Masses adhering to the Peritonaeum

I have several times had an opportunity of observing a white soft granulated matter adhering universally behind the peritonaeum. In some places it formed a mass of considerable thickness; in others, it was scattered in single small masses. In one case I recollect that it formed a substance as thick as my hand, between the peritoneum and the abdominal muscles.
while it was scattered in small separate portions in the mesentery and the peritoneum, covering the intestinal canal. The omentum I have sometimes seen changed into a cake of this substance. The matter itself appears to be scrofulous, for it resembles exactly the structure of a scrofulous absorbent gland before pus is actually formed. I am not at all certain how far this appearance of disease should have been classed along with those of the peritoneum: it does not take place (at least in the cases which I have seen) in the peritoneum itself but behind it, yet at the same time adhering to it. It appears, however, upon the whole, to be placed here with more propriety than it could have been any where else.

**Cancerous Tumours adhering to the Peritoneum**

I have also seen some small cancerous tumours growing from the peritoneum. These were extremely hard, of a white colour, and resembled exactly in their structure the cancerous masses which are formed in the stomach. What puts the appearance I allude to beyond doubt, is, that in the same body I found a cancerous tumour of the stomach. The cancerous tumors of the peritoneum were not at all connected with this other, but were in that part of the membrane which lines the recti abdominis muscles, nearly opposite to the region of the stomach.

**Mesenteric Glands cancerous**

When a portion of the intestinal canal becomes cancerous, some of the absorbent glands in the mesentery generally become affected with the same disease: this is in consequence of the matter of cancer being conveyed to those glands by absorbent vessels. The glands become enlarged in size, and are changed into hard masses exhibiting a scirrhous, or a cancerous structure.

**Mesenteric Glands scrofulous**

The absorbent glands of the mesentery are frequently found to be scrofulous, and this is more apt to take place in children, than in persons of a more advanced age. When affected with this disease, the glands exhibit different appearances, according to its progress: they are enlarged in their size, and are often somewhat softer to the touch, than in a natural state. When cut into, they sometimes shew very much the natural structure; but more frequently they are changed, in part, into a white, soft, curdly matter, and this is not uncommonly mixed with pus.

**Pancreas hard**

It is not very uncommon to find the pancreas much harder than in its natural state, and at the same time it is thicker and shorter than usual. There is, however, little appearance to the eye of its structure being altered. This I believe to be the beginning of a process, by which the pancreas becomes truly scirrhous. It very seldom in this state shews, in any part, the real scirrhous structure. But I have seen this to be the case, which renders it very probable, that the one is the beginning of a change into the other. When the pancreas in any part assumes the scirrhous structure, that part loses entirely its natural appearance, and is converted into a hard uniform, white mass, intersected by membrane, like scirrus in other parts of the body. In some cases it has been observed, in this state, to be considerably enlarged.