HARVEIAN LECTURES

ON

THE MODE OF DEATH FROM ACUTE
INTESTINAL STRANGULATION AND
CHRONIC INTESTINAL
OBSTRUCTION.*Delivered before the Harveian Society of London.*

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LECTURE III.—ON THE DIFFERENTIAL DIAGNOSIS OF ACUTE
INTESTINAL STRANGULATION AND TYPHILITIS.*[Continued from Page 1183.]*

CASE LIII. Abdominal Symptoms: Old Hernia; Exploration: Perityphilitis: Peritonitis.—Joseph R., aged 17, was admitted August 27th, and died on the 29th, 1873. He had an old hernia on the right side. On August 25th, two days before admission, without any assignable cause, he was seized with some abdominal pain, purging, and vomiting, and these symptoms continued up to his admission, with abdominal distension, and great tenderness, and collapse. His pulse was 126, and temperature 101° F. On August 28th the seat of the old right hernia was explored; only an old thickened sac was found. He died next day. At the inspection (286) the thoracic viscera were healthy. There was suppurative peritonitis, with its focus at the right iliac region. The intestines were glued together; there was pus on both surfaces of the liver. The parts about the cæcum were infiltrated with inflammatory material and pus. The appendix cæci was discoloured and ulcerated; the end of it was not discovered.

REMARKS.—This case was complicated with the presence of an old right scrotal hernia. So, when the man was suddenly seized with severe abdominal pain and vomiting, the suspicion of the symptoms being due to intestinal strangulation was raised; and the fact that purging was a symptom did not do away with the suspicion. The hernia was, therefore, explored, but with no benefit; only an old thickened sac was found. I am not disposed to find fault with the treatment, but consider that, upon the whole, cæcal trouble should have been diagnosed.

CASE LIV. Perforation of Appendix Cæci: Peritonitis: Pneumonia, following Perforation of the Diaphragm.—Tom L., aged 12, was admitted August 18th, and lived until September 2nd, 1869. He had been taken ill on August 8th, ten days before admission, with severe abdominal pain and bilious vomiting. The pain continued until the following morning, and recurred four or five times a day. Ten days later he was admitted, with febrile disturbance, abdominal tenderness, and thoracic respiration. On August 21st there was basic pneumonia; on the 26th the abdomen was tumid, with the liver to be felt down to the umbilicus. Later on, purging ensued. The boy died on September 2nd. The necropsy (227) revealed general pneumonia, peritonitis, with recent adhesions; a collection of pus in the left iliac fossa, and the recto-vesical pouch, on the under and upper surface of the liver, and on the diaphragm, through which was a perforation into the chest. In the right iliac fossa were two soft friable concretions, near the end of the appendix cæci, which for its last inch was ulcerated and destroyed. The colon and rest of the appendix were healthy.

CASE LV. Inflammation of the Cæcal Appendix: Sloughing of its Mucous Coat: Perforation of its Neck: Suppurative Peritonitis: Double Pleurisy.—T. R., aged 20, admitted on July 5th, died on July 7th, 1875. He had been healthy, though never strong. Twelve months beforehand he had had constipation for two days, and abdominal pain, but no vomiting, and had recovered. He was quite well on July 4th, the bowels acting twice naturally. He ate many cherries, and awoke at 5 A.M. on the 5th with sudden violent abdominal pain in the right iliac region. He vomited soon after, and the vomiting thenceforward continued. He was admitted with a tympanitic abdomen. The urine was high-coloured and scanty. On the 6th, the patient had incessant vomiting; his temperature was 98.3° Fahr., his pulse 128. The pain became agonising, and he sank comatose. The post mortem examination (271) showed double pleurisy. The lungs and heart were healthy. There was pus in the right iliac fossa, and lymph between the omentum and coats of the distended bowel. The coils of intestines about the cæcal appendix were of a purple colour,

and distended. The cæcum was healthy, its appendage was distended. The neck of the appendix was contracted, sloughing, and perforated. There were no solid bodies in the appendix.

REMARKS.—In this, as in a former case, there had been some antecedent abdominal trouble. The attack for which he was admitted was sudden and typical. In it the acute pain was referred to the right iliac region, and was associated with vomiting; and these symptoms persisted, and were speedily followed by collapse and death.

CASE LVI. Ulceration of the Cæcal Appendix: Abscess of the Liver, and between it and the Diaphragm: Extension of the Inflammation to the Pericardium and Mediastinum: Suppurative Pericarditis.—Jane S., aged 26, was admitted on September 27th, and died on October 5th, 1875. She had never been strong, and had lost eight brothers and sisters. The present illness had begun two months before, in an indefinite manner, with pain in the left side and about the shoulders. She was admitted with distinct abdominal swelling and tenderness below, and, to the left of the ensiform cartilage, with a bulging elastic tumour. An abscess was diagnosed. At the necropsy, the lower lobe of the left lung was fixed to the diaphragm. The pericardium contained six ounces of purulent serum. The heart was contracted as in peritonitis. There was a large abscess between the left lobe of the liver and the diaphragm, measuring 4½ inches across. The upper wall of the abscess had the pericardium as its boundary. Ulceration of the appendix was found, with fecal extravasation.

REMARKS.—The case had evidently been chronic, and its early history was not full. It well illustrates, however, how a cæcal abscess may burrow, or rather, how an inflammation, which evidently began about the cæcum, may spread and give rise to abscess between the liver and diaphragm, and, through this, to the pericardium. I have known this happen before, in a lady, aged 50, who, for years, had had cæcal trouble, and now and then slight attacks of inflammation. In her last attack the symptoms were very acute, and she died with peritonitis. After death, a large abscess was found between the liver and diaphragm, which had extended through to the chest. The matter had burrowed upwards behind the cæcum and ascending colon.

CASE LVII. Peritonitis: Ulceration of the Vermiform Appendix: Mitral Obstruction.—John D., aged 28, admitted on August 16th, 1874, and died the following day. A week before admission, after being quite well, he woke up in the night with a fearful abdominal pain below the navel, and vomited. The next day the vomit was green. On the third and fourth days the vomiting continued, with constipation. On the fifth day he vomited "stinking matter." When brought to Guy's Hospital on the sixth day, he was pulseless and collapsed. The abdomen was not much distended. He rapidly sank. The necropsy (309) revealed peritonitis, and the intestines matted together with lymph. Near the end of the appendix a hole existed large enough to admit a finger. The appendix was glued to the parts about it.

CASE LVIII. Concretions in the Vermiform Appendix: Perforation: Peritonitis.—William C., aged 18, was under Dr. Owen Rees' and my care on April 14th, 1871, and died on the 17th. On April 6th he had been suddenly seized with violent pain across the abdomen, and with vomiting. On the eighth, the bowels had been open, and again on the 9th, after an enema; but not again after that date. Vomiting had persisted. On admission, he was vomiting, and was collapsed. The pulse was quick and hard; the abdomen tender, not much distended. On the 15th the abdomen was explored with a central incision, and offensive pus escaped. The intestines were found matted together, and, on passing the finger towards the iliac fossa, air bubbled up. The wound was partially stitched up, leaving an opening for drainage, but the patient sank on the 16th, twenty-four hours after the operation. The inspection (108) revealed offensive pus in the peritoneum, which was acutely inflamed. The intestines were matted together. The vermiform appendage was gangrenous, and contained a small kidney-shaped concretion. Towards the end the coats had sloughed, leaving a free opening, through which feces had escaped. The liver weighed 66 ounces; the kidneys, 9½ ounces.

REMARKS.—This case was mistaken for one of internal strangulation, and, as I was called upon to explore it under that diagnosis, I may be free in my criticisms. I believe now, however, the true diagnosis should have been made; since a case of sudden seizure of abdominal pain, accompanied with vomiting, and followed on the second day by a free action of the bowels, and on subsequent days by slight action, was not quite consistent with strangulation. The persistency of the vomiting, rapid accession of collapse, and other abdominal symptoms, pointed also more to perforation. The treatment undertaken under our (the wrong) diagnosis might, however, have been utilised under the right, but to this I shall refer later on.

CASE LIX. Fæcal Abscess, with Perforation of the Cæcum, discharging

through the Umbilicus: Tubercular Disease of the Intestine: Caseous Mesenteric Glands.—George C., aged 13, was admitted under my care on September 27th, and died on October 6th, 1877. He had had pain in his right side for months. He was admitted with a fistula at the umbilicus, discharging feces and pus. He had been complaining for months of sickness and looseness of the bowels. Three weeks before admission he had sudden pain at the stomach, and a week later an abscess broke at the navel. On October 5th there was severe vomiting, which ushered in death. At the inspection (341) general peritonitis of old date was found, and the intestines were matted together. There were tubercles on the bowels, and ulceration throughout, more particularly at the cæcum, in which was a small perforation, half an inch long. This communicated, by a fistulous track, with the umbilicus. (The urachus seemed to have directed it to the umbilicus.)

REMARKS.—This case, if it stood alone, is worth recording, from the unusual and curious course the cæcal abscess took. I confess when I saw it I was quite unable to make a diagnosis, although in the future I hope I, in common with others who may know the case, will be more acute. The case was essentially a chronic one, lighted up by a fresh inflammation, and burrowing. I may add that, although this case is the first in which I have known a cæcal abscess directed to the umbilicus by the urachus, I have known a peri-vesical abscess so conducted.

Eight of these nine cases, extracted from the *post mortem* records, and note-books at Guy's Hospital, occurred in boys or young males, and one in a female subject; these figures, added to Hilton Fagge's, giving sixteen males to three females. In seven, the vermiform appendix was ulcerated or sloughing; and in five cases concretions were found. In two, the cæcum was the seat of ulceration. In all but one, peritonitis was the direct cause of death, with and without suppuration; and in the exceptional case, an accidental ulceration of an artery, followed by hæmorrhage, brought about death. In all the cases, after death, pus and other inflammatory products were found about the cæcum and neighbouring intestines; and, when the appendix was involved, sloughing of its base or apex, and more or less local fecal extravasation. In one case, the matter burrowed down the thigh. In three, it passed upwards about the liver; and in one case it perforated the diaphragm. In an unusual example, the matter burrowed in the course of the urachus, and was discharged through the umbilicus. Suppurative peritonitis, and some burrowing or extension of the abscess upwards or downwards, was the main cause of death in all.

With these pathological facts, let me return to the clinical, and see by a careful analysis of the symptoms if any guide to diagnosis can be found. In six of the nine cases, amongst the early symptoms, pain in the right side of the abdomen was prominent, and this pain in some cases had existed for months or weeks. In others, it began in that region as an acute symptom. In two at least of the cases, with this pain, there was pain down the front of the right thigh in the course of the anterior crural nerve. In two cases, there was flexion of the right thigh, and aggravation of pain on any attempt at extension of the limb being made. In a case recently under care, both these symptoms were also present. In three or four of the cases, the bowels were either regular during the progress of the case, or they were loose. In none of them was there any symptom of obstruction. In several of the cases, the abdomen was not distended. In all, there might have been sudden abdominal pain, associated with vomiting; but these symptoms, as a rule, were associated with others to which attention has been drawn, or followed those of a more special kind, which would have been enough to guide the surgeon to a diagnosis. In fact, in the majority of the cases recorded, a diagnosis, or rather probable diagnosis, was possible on a careful estimation of the facts of the cases, and more particularly of their histories. Indeed, in these cases, as in so many others, a careful history of the case is essential to enable the surgeon to form a definite diagnosis. An estimation of present symptoms alone is almost sure to mislead, whereas an estimation of all the facts of the case is absolutely necessary to guide. When an abscess is recognised and is typhantic, the connection between it and the bowel is readily recognised.

Under these circumstances, I think I am justified in adding that, as a rule, the diagnosis of peritonitis, the result of typhlitis or perityphlitis, ought not to be difficult, and that these cases should not be confused with those of intestinal strangulation; that the only symptoms in common between the two classes of cases are sudden acute abdominal pain and vomiting; and that, whereas in intestinal strangulation these symptoms come on usually in a patient who has been hitherto perfectly well, in cases of typhlitis, on the other hand, there will either be a history of local trouble, or other symptoms to point to it. In typhlitis, whether acute or chronic, the pain will almost always be on the right side of the umbilicus, and, in some cases,

will pass down the right thigh in the course of the anterior crural nerve; whilst, in some, the flexor muscles of the thigh will be involved, and extension rendered painful, if not impossible.

In the subacute cases, suppuration may burrow backwards towards the right loin, upwards towards the liver and diaphragm, or downwards towards the pelvis or thigh, or inwards towards the umbilicus. In some cases it will burst into the bowel. In every case, if left alone, acute peritonitis, grafted upon chronic, will bring about death.

With these observations, the subject of treatment ought to occupy our attention; and, taking as our guide the causes of death, I am disposed to think the indications are tolerably clear. Indeed, they all point to an early incision made in the neighbourhood of the cæcum for the evacuation of early inflammatory products in acute cases, and of pus in chronic; for there is little doubt that, in many of the cases recorded, had this relief been afforded, life would probably have been saved. In Case LI, as in the example quoted in the remarks upon it, this result unquestionably would have been secured; and in others it is more than probable. For, when ulceration and extravasation, either direct from the cæcum, or indirect from the vermiform appendix, have taken place, suppuration is almost certain to follow; and when it has occurred, a process of extension by burrowing in one of the directions indicated by the cases I have quoted, or towards the peritoneal cavity, may be expected to ensue. Under these conditions, a fatal result must be looked for.

Rest, opium, and belladonna, in the early stages of the trouble, are of the greatest value; but, when extravasation has occurred, and inflammatory fluids have been poured out, little reliance can be placed upon them, unaided by the surgical procedures already described. Under these circumstances I would suggest, as a rule of practice, that, in all cases not rapidly subsiding under medical treatment, an oblique incision above Poupart's ligament should be made, from about half an inch external to and above the internal abdominal ring, upwards and outwards, in front of the anterior superior spinous process of the ilium, or even further back above the iliac crest. The incision should extend through the muscles and transversalis fascia, and the finger will then readily pass behind or in front of the cæcum, according to circumstances, to let out inflammatory products. With their exit, convalescence may be expected; without it, some such results as have been recorded in this lecture must be anticipated.

When the cæcal appendix, within a mesentery of its own, is floating in the peritoneal cavity, and becomes the seat of trouble, a localised peritonitis will of necessity take place, as in Case LVIII; and, under such circumstances, the question of opening the peritoneal cavity presents itself. For my own part, I can see no practical objection to the procedure; since, if the case be left alone, a diffused peritonitis is sure to follow the local one, and, as a result, death. In the case quoted (58), this practice was adopted, although under a mistaken diagnosis; but, had I washed out the abscess cavity more thoroughly than I did, and made better provision for its drainage, success might have followed the practice. My only excuse for not having taken these precautions is to be found in the fact that the case occurred in 1871, when we were not so alive to the value of the means mentioned as we are now.

In the short time still at our disposal, I should like to draw your attention to a remarkable case of circumscribed suppurative peritonitis due to an ulceration of the stomach, which had been regarded as ovarian, and tapped, and then sent to me for operation. When I saw and examined the case, I questioned the diagnosis of ovarian disease, but was unable to formulate a better. I consequently made an exploratory operation, which was not successful. The case is as follows.

CASE LX. *Circumscribed Suppurative Peritonitis, communicating with the Stomach.*—Margaret D., aged 24, was admitted on July 22nd, and died on August 11th, 1875. She had been married two years; had had no children; her catamenia had been regular. Soon after marriage, she had noticed a lump in the left inguinal region, which steadily increased until five weeks before admission, when it rapidly enlarged in a few days. Three weeks before admission, she had been tapped, and a brown fetid fluid drawn off. On admission, she was much emaciated. There was no albumen in the urine. The abdominal swelling was great, but the cavity contained air and fluid; it was not believed to be ovarian. On July 25th, the abdomen was opened, and a quantity of fetid purulent fluid drawn off. The abdominal cavity was not supposed to have been opened. The intestine was apparently shut off by membrane. The cavity was washed out, and a drainage-tube introduced. The patient at first did well. On August 1st, seven days after the operation, food taken into the stomach ran out of the wound. She died exhausted on August 11th, the seventeenth day. After death (Inspection 311), the lungs were found to be emphysematous; the heart healthy. In the stomach, at the posterior part of

its cardiac end, was an oval opening, one inch in diameter, communicating with what was supposed to have been a cyst. The opening was injected at its edges, but not thickened. The gastric mucous membrane elsewhere was quite healthy. The intestines were all matted together at the back part of the abdominal cavity. Over them lay the omentum, which was thickened, and continuous with a layer of lymph which lined the abdominal cavity anterior to the intestines. A closed sac was thus formed, lined by false membrane, and incomplete only where communicating with the stomach. The intestines were healthy; the mesenteric glands enlarged. The kidneys, uterus, and ovaries were all healthy.

There can now be little doubt as to the nature of this case; the light of pathology having fairly removed the darkness of the clinical phenomena. I had thought the case almost unique, when I dropped upon another very like it which occurred in the practice of my colleague, Dr. Wilks. I give it in abstract, as taken from our *post mortem* records.

CASE LXL. Ulceration of the Stomach: Perforation: Hypochondriac Abscess.—Mary A. F., aged 32, was admitted on December 22nd, 1877, and died on January 2nd, 1878. She had been subject to winter-cough, and had spat blood on several occasions. She had never noticed her abdomen swollen, nor had had pain until six days beforehand, when she discovered a swelling of the abdomen whilst she was dressing. When admitted, she had a large rounded swelling in the epigastric and hypochondriac region. It was tympanitic on percussion, and there was splashing of air and fluid in it. There was an edge below, which was thought to be that of the liver. On December 24th, she was tapped with an aspirator; air escaped, and then pus, which was foetid, to two pints. Distension returned. Her temperature was 98° Fahr. She then had diarrhoea, and pain in the right side of her back. On the 26th, she was very low. On the 29th, she was again tapped with a large trocar, and much very offensive pus was drawn off. A drainage-tube was fixed in. The patient gradually sank, and died on January 2nd. At the necropsy (8), the lower part of the abdominal cavity was found to be healthy, the omentum being spread over healthy intestine. The under surface of the right lobe of the liver was adherent to the parts below. The abscess, which was opened, was bounded above and in front by the diaphragm and abdominal walls. To the right, it was bounded by the falciform ligament of the liver. To the left, the cavity extended into a space inside the left ribs, arching the diaphragm greatly, and pressing on the spleen. The floor of the cavity was formed by the whole convex surface of the left lobe of the liver, by the upper surface of the spleen, and by the stomach, into which there was an aperture through which air and fluid bubbled from the stomach. The stomach was shrunken; on its convex surface was an ulcer, measuring $2\frac{1}{2}$ by $1\frac{1}{2}$ inches, and bounded by a smooth rounded lip of mucous membrane. The base was on the pancreas and the left lobe of the liver.

These cases I simply record as examples of chronic ulcer of the stomach, perforating its walls, and giving rise to an abdominal tumour, in one case simulating ovarian disease.

In conclusion, Mr. President, allow me, through you, to thank the Council of this Society for the honour they have conferred upon me by making me their lecturer; and to thank you, gentlemen, for the kind support and attention you have given to me during their delivery.

HEALTH OF HELMSLEY RURAL DISTRICT.—Dr. Bruce Low, whose report, we are glad to see, appears in a printed form, takes a more hopeful view of the future than hitherto. He cannot refrain from congratulating his authority on the satisfactory nature of the year's results; though, at the same time, he warns them not to fall into a false sense of security. The sanitarian's work requires him to always be on the alert. The task of watching against the first appearance of preventable disease must always be maintained without the slightest relaxation; for without this constant care and watchfulness, the healthiest districts may sink into the slum which is formed out of idleness, apathy, and dirt. As it is, the district is quite unprovided with machinery for dealing with outbreaks of infectious disease. There is no isolation hospital, no ambulance, no disinfecting chamber, and no arrangement for the notification of infectious disease. In these circumstances, the struggle is often hopeless; and it is to be deplored that the efforts of Dr. Low do not receive that encouragement which they deserve from the hands of those responsible for the sanitary welfare of the district. The death-rate from all causes was as low as 12.88 per 1,000 (the smallest recorded for the last twenty years), and there was also a gratifying diminution in the mortality amongst infants.

A LECTURE

ON

THE HISTORY OF EMBRYULCIA,

Introductory to the Course of Lectures on Midwifery and the Diseases of Women and Children, in the University of Edinburgh.

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(Concluded from page 1181.)

Commentators.—More important than the question as to how the perforation can be best effected, is the question as to the best method of securing the further reduction in the size of the fetal head. It were long to name the almost endless variety of implements that have been employed or invented for performing this part of the operation. We may catalogue them in five different groups, and look at one or two types in each of these divisions.

1. *Craniotomes.*—Up till the early part of this century, when obstetricians had to do with a case where the head could not be hooked out after perforation of the vault, and they found it necessary further to break open the head, they helped themselves out with some kind of forceps, which may have been little changed from the *nestor* of Hippocrates or the *misshadach* of Albucasis. I show you two of them, which have been, with various modifications, most widely used—the one on the Continent, the other amongst ourselves. The first (see Fig. 13) is the *tenette à conducteur* of Mesnard, which I show you,

Fig. 13.

Fig. 14.

Fig. 15.

Fig. 13.—Mesnard's Craniotomy Forceps.

Fig. 14.—Lyon's Craniotomy Forceps.

Fig. 15.—Baudelocque's Cephalotribe.

both because, under some modification, it has been extensively employed abroad, and because it is sometimes said to resemble the cranioclast, which is constructed for quite a different purpose. The longer blade (on the right) having been passed through the aperture made by the perforator, the smaller blade was passed, according to Mesnard's direction, outside the scalp, so as to obtain a power of prehension for extraction; but the perusal of his work, *Guide des Accoucheurs*, gives one the impression that he had not come across a case of very grave contraction in his practice in Rotten. This other craniotome (see Fig. 14) is the well-known Lyon's forceps, which was used by passing