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ABSCESSSES OF THE ABDOMEN.

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ABSCESSSES in and around the abdominal cavity differ from ordinary abscesses, 1st, in the difficulty of determining their exact anatomical location, and 2d, in their early tendency to cause septic poisoning, the symptoms of which are apt to obscure those due to the formation of pus.

As regards location, the difficulties which gynæcologists have experienced in determining the anatomical seat of an effusion in the roof of the pelvis, pertain also to those lodged higher up in the abdomen. Whether anterior or posterior to the peritoneum, in the abdominal wall or in the peritoneal sac itself, the symptoms may be so nearly identical as to prevent a positive diagnosis.



The last case of this kind in my practice was one under the charge of Dr. Galbraith, of Pontiac. A gentleman was seized with pain at a point midway between the anterior iliac spine and the navel. He had previously suffered from a slight diarrhoea, but had had no chill nor fever. The pain grew constantly worse for a period of three weeks, during which his pulse ranged from 80 to 100 per minute and his temperature from 100° to 102° F. He had in this time but once shown symptoms of gastric irritability, and but once a slight chilliness, but had several times had discharges from his bowels. The circumscribed spot of pain grew more and more tender, and at the end of the second week showed signs of deep induration. This induration grew in extent, and at the end of the third week, when I first saw him, seemed as large as a hen's egg. It was then clearly defined, and did not extend to the liver above, the iliac fossa below nor the kidney behind. The patient, in the third week, grew dull and listless and began to fail in strength. His tongue became dry and there began to show a little sordes on the teeth. There was evident inflammatory effusion, but the diagnosis of location was doubtful. An aspirator needle thrust inwards to a depth of nearly three inches, tapped a cavity containing fetid pus of which we obtained about a tablespoonful. The puncture was followed by immediate

relief from pain. The swelling continued, however, to increase, and on November 20th Dr. Galbraith aspirated it for the second time. On November 21st the skin over the spot had an erysipelatous line, which soon extended from the ribs to the pelvis. From the orifice of puncture there issued a constant stream of black foetid pus. I saw the patient again on that evening, and found him evidently worse. The tumor, greatly increased in size, was no longer sharply defined, and extended to the liver above and the kidney behind. Fluctuation could not be detected, and percussion revealed but doubtful signs, as we never failed to detect the intestinal resonance over the whole mass. An anæsthetic was given and aspirator needles were again thrust in various directions into the mass, but without success. We were uncertain whether the black, oozing fluid might not proceed from a gut, but determined, nevertheless to operate. Incisions were therefore made, a little above and inside of the anterior superior iliac spine, through the three muscular layers. It was observed that all, but especially the transversalis, were swollen and friable. At a depth of more than two inches we were still outside of the peritoneal cavity, when all at once the tumor disappeared, and, what was of more importance, the guiding thread of pus. It was only after long searching that I finally discovered a fluctuating swelling

much nearer the median line than my incision. Puncturing this, we found our hidden abscess. There was, just outside of the peritoneum, a cavity, about as large as a hen's egg, ragged and irregular, and filled with offensive pus.

The patient, though nearly 70 years of age, eventually recovered, and was considered well until about three weeks ago, when he began to complain of soreness in the old scar. An abscess then formed which discharged a fluid apparently colored with bile. Since then, through the resulting fistula, strawberry seeds and other minute fragments of food have been occasionally discharged, showing an evident intestinal connection. At no time during the period in which the first abscess was discharging had there been any signs of any intestinal communication. Neither fæces nor fragments of food, nor intestinal gases had then escaped, nor had the pus after its first evacuation been other than laudable. It is probable that the extra peritoneal abscess had first developed and that the intestine had become adherent, and had subsequently ulcerated, producing the present abscess and fistula.

At the time of my operation the abscess certainly seemed to be bounded by and outside of the peritoneum, though I will confess that I was very uncertain, when I began this operation, where it would end, and would not have been surprised if I had

eventually opened into the peritoneal cavity, or rather a circumscribed abscess within that cavity. The lack of gastric irritability, the absence of constipation and the semi-resonance on percussion all, it is true, indicated that the focus of disease was outside of the peritoneum. I had but recently had a case, however, which would prove the error of relying too implicitly upon such symptoms in diagnosis.

A girl of twenty-one, a patient of Dr. Cleland, of Detroit, on whom I performed ovariectomy on October 9, 1879, seemed to do well for four days. Her abnormally quick pulse of 120 beats per minute, almost alone indicated trouble. Her temperature, after the fourth day, became a little elevated and irregular, ranging from normal to 103° F. On the eighth day I removed the stitches—and I will say here, that as the tumor had been removed by Miner's method of enucleation, there was no pedicle. The abdominal wound had at this time completely closed by first intention. The patient seemed, in many respects, in first-class order. Her stomach retained all its food, and her bowels had moved freely without any purgative. Her temperature, however, rose to 104° F., and her pulse continued very quick and feeble. The abdomen, though doughy to the touch, was not sensitive. Fluctuation could not be detected. On the tenth day a sudden gush of foetid pus through a suture hole revealed

the trouble. I opened the wound, freely let out a large quantity of offensive matter and inserted drainage tubes, and after this the patient made a good recovery. Now in this case, in truth, a peritoneal abscess of great size developed without causing chills, or sweats, or nausea, or constipation, and revealed its presence only by the doubtful signs of high temperature, quick, feeble pulse and general prostration.

The semi-resonance on percussion which I have spoken of as a symptom of my first case, I have also had occasion to observe in a renal abscess, situated, of course, behind the peritoneal sac. The history of this case has already been published, but I will say of it now, that I fully established the diagnosis by nephrotomy. In this case, the large, fluctuating tumor behind the peritoneum, occupying a space more than half the width of the abdomen, yielded on percussion the same semi-resonant sound as the abscess of case 1, situated *anterior* to the peritoneal cavity.

Of more importance in determining the seat of an abscess, whether intra or extra-peritoneal, than any of the symptoms mentioned, is the character of the swelling as regards its limitation. An inflammatory tumor, strictly circumscribed, occupies more usually a point outside of the sac of the abdomen, while the more diffuse and doughy masses are commonly intra-peritoneal.

Abscesses forming in the lumbar region, behind the peritoneum, will either take the course of ordinary lumbar and psoas abscesses, or, like the renal and peritoneal abscess of which I have just spoken, develop in the lumbar region before they can be felt through the abdominal walls. It may be said further, in this connection, that the peculiar pulse and facial expression of peritonitis are lacking in those inflammations which occur adjacent to, but outside, that membrane.

The peculiar factor which is usual to abscesses occurring anywhere near an intestine deserves more discussion than is usually bestowed upon it. It is usually ascribed to the passage of gas by exosmosis from the intestine. Here arises a question at once physiological and pathological: Do gases habitually pass through the intestinal walls in their normal state into the peritoneal cavity in order there to undergo absorption? If so, what effect would they have upon the animal economy when they are formed abnormally, as in intestinal catarrhs or obstructions? Their effect upon purulent collections is the obvious one of causing decomposition, and, as the result of the decomposition, early gangrene and blood poisoning. This may be especially remarked in the cases of pericæcal abscess, where the symptoms of inflammation are quickly followed by the development of typhoid symptoms and destruc-

tion of tissue. Such patients are apt to pass rapidly into a state of delirium. They rarely manifest the chills which elsewhere denote the occurrence of serious suppurations, but grow weak and languid, with parched tongue, sordes on the teeth and mental wandering. In a case upon which I operated a few years since at the Grand Trunk Junction, the patient had been a few days ill with a severe inflammation of the right iliac fossa. Dr. Hoyt, who had him in charge, told me that aside from acute pain and high fever and local redness and swelling, he showed no alarming symptoms until suddenly, without the occurrence of chills, he fell into a typhoid state, with feeble pulse and wandering delirium. I found him in this condition. Over the spot of pain the skin was of a dark red hue and crepitated under the finger. I made a free incision and evacuated a quantity of stinking pus and after that the patient rapidly proceeded to recovery. In these cases the peritoneum is rarely involved as the inflammation occurs in the cellular tissue behind the bowel, but the severe pain, the attending constipation, and often the gastric irritability, simulate peritonitis. Should the surgeon wait with such patients until chills and fluctuation make manifest the abscess, he would err. The only safe method is to use the exploring needle as soon as the skin pits on pressure or typhoid symptoms occur, and then to cut

early. I am not sure, indeed, whether I would hesitate to cut into the inflamed structures even before pus could be thus obtained if the symptoms became at all alarming. Free incisions in the pre-suppurative stage would relieve tension and act just as beneficially as in a whitlow.

Before closing this paper I must speak of those abscesses of the abdominal wall which discharge by ulceration through the wall of an adherent bowel. Ordinarily, if the discharge is free, the cavity will gradually close and heal. If, however, the previous ravages of the abscess have been extensive and the orifice of discharge is small, they will tend to perforate the abdominal wall also and form fœcal fistula. The surgeon has to be on his guard in these cases, for if he cuts such a swelling freely open and a fistula results, he invariably gets the credit of having cut the bowel. The symptoms denoting the evacuation of pus into the bowel are relief from tension and pain, diminution of the size of the tumor, diarrhœal discharges, and sometimes the occurrence of tympanitic resonance in the previously only semi-resonant tumor.

When these symptoms take place the urgency of the case as regards operation has passed away. The pus discharges through the bowel, gas mounts upward into the abscess cavity, and eventually the cavity contracts and heals, or the integument will

ulcerate through and we will have a fœcal fistula. The former event may not infrequently take place. I once saw a young man, in consultation with Dr. Jas. A. Brown, of Detroit, who had had a localized inflammation near the navel. When I saw him the urgency of the symptoms had subsided, but there was a soft, red and œdematous spot in the abdominal wall, such as ordinarily denotes the presence of pus. The needle of a hypodermic syringe passed into it discovered a cavity filled only with gas, and bubbles of gas escaped afterwards through the minute orifice. The skin only covered the hollow, and yet the patient recovered without external discharge. Had we cut into it I am afraid that we might have had to regret a fœcal fistula.

When the symptoms of abscess of the abdominal wall are followed by the sudden occurrence of a general peritonitis, indicating rupture into the peritoneal cavity, there can be, I conceive, only one rational procedure, namely, that which has been resorted to so successfully in rupture of ovarian tumors, viz., free incision into the cavity, its thorough cleansing with carbolated injections and subsequent free drainage. I do not believe that any other treatment whatever can save life under such conditions.

The same may be said of those abscesses which develop sometimes idiopathically in the peritoneal sac as the result of acute peri-

tonitis. They should be opened freely and thoroughly drained, otherwise they will end either speedily in death or result in long and numerous fistulæ which may take years in healing. Such a patient came once under my observation in the person of a young man of about twenty years, who lived in Brighton, and was under the charge of Dr. Brigham. He had been ill for many months with fistula and chronic inflammation of the bowels, which had followed an acute peritonitis. After death a post-mortem examination was held, which I was unluckily unable to attend. Dr. Brigham informed me, however, that the numerous fistulæ penetrated into the abdominal cavity, where the intestines were found matted together and much discolored from the effect, apparently, of an old inflammation.

The symptoms of suppuration, when a peritonitis takes the unusual course of suppurating, may be very obscure, as we may have neither chills, redness of the skin, œdema, nor fluctuation, but it may be remembered that in suspected cases an exploring needle may be inserted into the abdominal cavity without any great danger.

To sum up, therefore, I will report that the diagnosis of the location of abscesses in or around the abdomen may be quite difficult, that the chills which denote the occurrence of suppuration elsewhere are often absent altogether in even large abscesses of

the abdomen, and, finally, that the treatment in all cases must be the same which we apply to collections of pus elsewhere, namely, free evacuation and drainage, under the methods of strict antiseptic surgery.