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ON

Peritonitis

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Kerr On Peritonitis

To

The Medical Faculty

Of The

University of Nashville

To whom he is indebted for so much useful and pleasant instruction, and whom he will always gratefully remember, these pages are respectfully dedicated by

The Author

Peritonitis

This disease, which is an inflammation of the serous sac which lines the abdominal cavity, and invests more or less completely all of its contained organs, admits of being divided into several varieties, but I shall consider it under the two general heads of Acute and Chronic Peritonitis.

Acute Peritonitis is often ushered in with a chill, but most frequently it begins with pain and uneasiness in the abdominal region. Occasionally the two phenomena are simultaneous in the period of their occurrence. The pain is sharp and severe; generally beginning

in the hypogastric region and extending more or less rapidly over the other regions of the abdomen. Tenderness is always present. The slightest pressure gives rise to the most exquisite pain, and whatever causes contraction of the abdominal muscles has the same effect. Hence the patient suffers from defecation, micturition or whatever causes straining. He lies upon his back with his thighs flexed upon his abdomen and the legs upon the thighs, so as to relax the part and take off the weight of the bed clothes.

Most frequently the tenderness is general over the whole abdominal surface, but in some instances it is greatest in particular spots, indicating in such cases the situation of the inflammation. From the commencement there is a feeling of tension,

hardness and elasticity in the parietes of the abdomen, and very soon a swelling begins which increases with the continuance of the disease, and towards the close assumes the character of tympanites. In some cases there is but little or no tumefaction. The swelling when present is generally uniform, but may be irregular, resembling a tumour, or tumours in the abdomen. Percussion in the initiatory stage of the disease generally yields a healthy sound, but as it advances the resonance increases with the swelling, except perhaps, in the most dependant parts of the abdomen, where the effusion of fluids may render the sound dull. Sometimes a peculiar friction sound is audible when the ear is applied over the seat of the inflammation, and a corresponding sen-

tation is sometimes communicated to the hand thus applied. These signs may be the result, either of a dryness produced by the inflammation, or by an effusion of lymph, causing roughening of the peritoneum. just as they are produced by a similar condition of the pleura in pleuritis.

Besides the symptoms already enumerated, there are many more, either sympathetic or dependent on the direct propagation of the irritation to contiguous parts, such as nausea and vomiting, thirst, constipation, scanty urine &c. The face is pale and contracted, and marked by deep distress. There is a pinched and anxious appearance of the countenance, peculiar and characteristic of the disease under which the patient labours. The respiration is short and hurried, because of the

pain produced by the movements of the diaphragm and abdominal muscles. The pulse is usually very frequent, ranging according to Dr Wood from a hundred and ten to a hundred and thirty per minute. It is small tense and wiry. The tongue is generally moist and covered with a yellowish fur; but is sometimes dry and red, and sometimes nearly natural. The chill with which the disease commences is frequently followed by a fever, which soon subsides, and during the greatest severity of the complaint the skin is but little warmer than natural.

The progress of peritoneal inflammation is usually rapid. In severe cases death often takes place in two or three days, and generally in about seven or eight. An increase of pain tenderness and, marks the advance of the dis-

case, but a sudden and complete subsidence of pain often precedes a fatal termination of the disease. Hence a cessation of pain must not be regarded as a favourable symptom, unless accompanied with other indications of improvement. This sudden disappearance of pain in the latter stage of peritoneal inflammation very often marks the termination of the disease in gangrene, and is therefore to be regarded as a fatal prognostic. As the disease advances towards a fatal termination, the pulse becomes frequent and feeble, the extremities cold and the countenance ghastly. The abdomen is tympanitic, or sunken and flabby. There often occurs a vomiting of dark, or black matter. The bowels sometimes give way, and there is a discharge of the same sort of matter per anum. — Singultus very often occurs before death, or the patient may pass into a comatose condition, from

which he never recovers. Not unfrequently however he retains the proper functions of his intellect to the last.

A favourable issue is indicated by an amelioration of all the symptoms. Sometimes a copious discharge from the bowels, skin or kidneys marks the resolution of the disease. In some cases the symptoms entirely disappear and the recovery is perfect. In others a greater or lesser degree of pain continues after the constitutional symptoms have disappeared. Again the acute may terminate in the chronic form of the disease, thereby prolonging recovery.

There are various modifications of Peritonitis, some of which it will be proper in the present place to notice. Thus it sometimes circumscribed affecting a small part of the peritoneum only. This is apt to be the

case when the disease arises from a local cause, such as inflammation of an invested organ, or from mechanical violence. Inflammation thus propagated from contiguous textures to the peritoneum is not disposed to spread, but affects that portion of the membrane covering the diseased part beneath. The inflammation is less likely to spread when a fixed organ is the seat of the primary disease. The local and constitutional symptoms are less severe in this variety of Peritonitis than that in which the inflammation is more general. The phenomena are also much modified by the organ affected. Jaundice is often present when the disease occupies the peritoneal covering of the liver, the result of irritation extending to the glandular part of the organ. Great pain and tenderness in the hypogastric region, and difficul-

ty of micturition, mark inflammation of the serous covering of the bladder. Epigastric tenderness, nausea and vomiting, with great constitutional disturbance point to the serous covering of the stomach as the part affected. The right iliac region is sometimes the seat of partial peritonitis. In this situation it is usually caused by foreign bodies lodged in the coecum or vermiform appendix; or by the escape of fecal, or other matter through perforations of the coats of that portion of the canal. When the disease is located at this point, it is marked by pain over the head of the colon and costipation. It frequently terminates in abcess which points either anteriorly or behind

Peritonitis is for the most part a painful disease, although it sometimes comes on in-

sidiously without much pain, and runs its whole course without any great disturbance. This form of the disease is most apt to occur in persons of feeble constitutions, and when masked by other diseases (such as inflammation of the brain) that obtund the sensibility.

Like all other inflammations, peritonitis is often accompanied by a typhoid state of the system, marked by feebleness of the circulation, sordes upon the teeth, dry and parched tongue, and disposition to hemorrhage from the mucous membranes.

Another modification of the disease incidentally mentioned ~~mentioned~~ above, as sometimes occurring in the right iliac region, is that caused by the perforation of a hollow viscus and the escape of its contents into the cavity of the peritoneum. In this case the inflammation is

most frequently general. The phenomena of this type of the disease are usually preceeded by some other affection attended by ulceration of the bowels. It often occurs during the progress of enteric fever. The commencement of the peritonitis is marked by sudden pain at a certain point, which rapidly extends over the whole of the abdomen, indicating the the spread of the inflammation over the peritoneal surface. All the symptoms of intense inflammation are rapidly developed and the patient usually sinks in a few days, often in a few hours. Recovery from this form of peritonitis is rare, but occasionally it terminates favourably.

Another form of this disease occurs in puerperal women, and is called <u>Puerperal</u>

Peritonitis. It is generally caused by a peculiar contagion, especially in that form of it, which is so often said to prevail epidemically in Europe. But inasmuch as it belongs more appropriately to the subject of Midwifery, the author deems it unnecessary to take it into farther consideration.

The limits of this paper will not ~~will not~~ allow of an extended notice of the anatomical changes brought about by peritonitis. It may suffice therefore to say in a general way, that the effects of peritineal inflammation as revealed by dissection are, 1st Increased vascularity and thickening of the membrane 2 Effusion of coagulable lymph will be found in the form, either of flocculi, membranes, bands, or mapes. and frequently agglutinating the in-

testines together, to the abdominal parietes, or to the omentum. 3d There may be effusion into the peritoneal cavity, of various fluids, serum, pus or blood, and these may be mixed or seperate. 4th " Mortification. 5th " Tuberculous formations. 6th Granulations on the surface of the peritoneum. 7th " In cases of perforations, ulcers will be found commencing with the mucous, to have eroded and passed through the various coats of the bowel, permiting the escape of its contents into the peritoneal sac.

This brief account of the morbid anatomy of peritonitis, brings us in the next place to a consideration of the etiology of the diseases.

Peritonitis may arise from all the ordinary causes of inflammation, such as the vicissitudes of temperature, the use of stimulants, the

exposure of the body to cold and dampness. It is however more frequently caused by blows, falls, wounds of all sorts, and surgical operations, among which may be named paracentecis abdominis and the caesarian section. Sometimes it occurs as the result of other diseases, especially by inflammation of such of the viscera as are covered by peritoneum. Obstruction of the bowels, either external or internal, often gives rise to the disease. It is not unfrequently the result of perforation of the hollow viscera of the abdominal cavity. This perforation may be caused by ulceration, or rupture; or by penetrating wounds. Thus perforation of any of the hollow organs contained in the abdomen, the bursting of an abcess, or an aneurism may give rise to peritonitis.

Diagnosis. When the disease is fully form-

ed, without complication there can be but little difficulty in distinguishing it from other affections. It may be known from gastritis by the supine position of the patient, the greater tenderness, the sharper pain, the greater tendency to constipation, and the greater impression which it makes upon the constitution. From inflammation of the muscular coat of the bowels, by the colicky pains of this disease, and the decided constipation. From colic by the great tenderness upon pressure in peritonitis and the paroxysmal character of the pain in the former affection, and also by the dorsal decubitus in peritonitis. From inflamation of the bladder, liver and other parts invested by peritoneum, by the absence of any marked & decided disturbance of their several functions,

such as would of necessity result from inflammation of their proper substance.

Treatment. In the treatment of ordinary acute peritonitis, prompt bleeding is the remedy most to be relied on. Authors teach us that we are not to be governed by the pulse in deciding upon the propriety or impropriety of abstracting blood, as the heart is often, as it were cramped by the violence of the disease. Hence the pulse although often corded, is generally small and frequent. We are also taught that it often becomes fuller and more developed under the use of the lancet, and this may be taken as proof that the remedy was demanded. Circumstances must regulate the quantity of blood to be taken. Age and constitution of the patient, the stage of the disease and the effect produced by the bleeding [illegible] all

considerations in determining the amount of blood to be abstracted, that must not be overlooked. The practitioner should in the opinion of the author, be governed by effect of the los of blood, both upon the system and the disease, in regard to the quantity to be taken at any one time; and also as to whether the operation should be repeated or not. In short he should bleed for effect. When faintness occurs, or if the pulse sinks under the flow of blood, we may know that a sufficient amount has been taken for the time being. After the first bleeding mild purgatives should be given, in order to clear out the alimentary canal. For this purpose it is best to premise a dose of calomel and follow it up with senna or castor oil. Active purgation must be avoided, but the pres-

ence of irritating foecal matters in the bowels will be likely to produce more mischief than a gentle purgative; besides purgatives have a derivative effect by their action upon the mucous lining of the intestines. But after one full purgation, it is not advisable to continue their use, as by stimulating the motion of the tube they may agravate the disease. In the treatment of other inflammations, as an inflamed joint for instance, one of the main indications, as universally recognized, is to keep the part at rest, why not then should the same rule hold good in the treatment of the inflamed peritoneum? Keeping this object in view then, after one thorough evacuation, we should be content to produce a very slightly laxative effect upon the bowels by the administration of our medicines. In the

selection of laxatives, such only should be chosen as will be most acceptable to the patient's stomach, and should they prove very disagreeable to that organ, they should be dispensed with and clysters employed in their stead.

After premising one or two large bleedings, and a sufficient evacuation of the bowels, recourse should be had to leeches which should be freely applied over those parts that evince the greatest amount of tenderness under pressure. They should be followed by large and warm cataplasms, which ought also to be light, in order that their weight might not incommode the patient. Cold water and pounded ice have been used as applications to the abdomen with asserted benefit. I should think the patient's feelings should be consulted in choosing between cold and warm applications. But care is necessary

on the application of cold, that it may not be carried too far, thereby so retarding the circulation as to produce gangrene.

Opium is admisable early in the disease. The best time to give is at night, so as to procure rest and sleep and to keep the inflamed membrane as motionless as possible. Dr Wood recommends the combination of small portions of calomel and opium. He directs the calomel with a view to its constitutional effects; or in other words, to form a basis for such an impression should it become necessary later in the progress of the disease. In this the first stage of the affection, refrigerents may be of benefit such as the effervescent draught, which while it allays the irritability of the stomach also determines to the skin, two important indications to be met. If the gastric irritability

be very troublesome it will often be allayed by draughts of chamomile tea, or by an emetic which cleanses out the stomach. Anodynes may also be used for the same purpose with a prospect of benefit. After the disease has continued for several days and proper depletion has been made, the cataplasms may be replaced by rubefacients or blisters. In the advanced stages it often becomes necessary to use stimulants, and for this purpose ammonia, wine whey and other articles of this class may be used. Sometimes stimulating food may be necessary. It is needless to say perhaps that during the active stage of the disease, the patient should be confined entirely to fluids.

From the long list of farinaceous articles of diet which may be prepared in a liquid form we may always select some that will

agree with the taste of the patient.

To allay thirst, small pieces of ice may be held in the mouth, and the patient allowed to swallow the water as it melts. Small quantities of iced water, or carbonic acid water, may be allowed for the same purpose. Of course the patient should be kept motionless in bed. At least as little motion should be allowed as possible, and some contrivance should be instituted to take the weight of the bedclothes from off the patient's abdomen.

Cases of partial peritonitis should be treated upon the same general plan that the severer forms require, but less actively. When the inflammation is dependent upon perforation of the intestine, the treatment is a little different from that which is applicable in cases arising from other causes. As the

perforation is generally produced by some other disease that has weakened the vital powers of the patient, bleeding from the arm will seldom be admissable, but in its stead leeches should be applied to the abdomen, the number to be regulated according to circumstances. The great indication to be fulfilled, is to keep the bowels perfectly at rest, and for this purpose large doses of opium should be given, so as to bring the system fully under the influence of the medicine, and keep it so. What indication do we aim to meet in the administration of opium? Clearly to put the bowels in splints as it were, that adhesions may be formed and the effused matter be prevented from spreading. Opium not only has this effect, but by obtunding the general sensibilities, prevents the disease from making so great an impression on the general system as

it would otherwise do. The patient should be allowed as little nutriment as is compatible with the performance of the various organic functions. Drinks should be given often, and in small quantities. Thirst may be allayed by small pieces of ice placed upon the tongue. We would conclude a priori that peritonitis arising from this cause would in a large majority of instances prove fatal, and the meagre list of recoveries on record attest the truth of such a supposition.

Chronic Peritonitis

There are two varieties of chronic peritonitis, the one arising from the ordinary causes of inflammation, and the other from tubercles scattered over the serous membrane. I shall confine myself to a consideration of the first variety.

Symptoms. Peritonitis is occasionally chronic ab

initio; but most frequently it a sequel of an acute attack. In the ~~first~~ form the commencent of the disease is often obscure. Derangement of digestion, slight pain in the bowels, and constipation alternating with diarrhoea, are generally present. After a longer or shorter time the general health becomes deranged, a little febrile heat is experienced towards evening, the patient gradually looses strength and flesh, and the disease becomes fully formed. When the disease is the result of an acute attack, the phenomena of the chronic follow immediately after the symptoms of the acute disease. The symptoms of the two forms of the disease are frequently so blended, that it is often difficult to say whether the attack was originally acute or chronic. In fact there seems to be no distinct line of demarkation between them.

When the disease is fully formed there is slight tenderness in the abdomen, which is often not felt unless pressure be made directly over the affected part. Sometimes there is a sense of heat in the epigastrium. There is occasionally tumefaction of the abdomen, with dulness on percussion, caused by effusion of serum into the peritoneal cavity. Sometimes the effusion is so great as to amount to decided ascites.

The appetite is generally feeble, and the digestion impaired. Food causes a sense of weight in the stomach, and often pain in a particular spot, occurring at a certain time after meals. The state of the tongue is variable. The pulse is frequent, the urine scanty, and the skin dry. The progress of the disease is usually slow. The strength fails and the patient is gradually worn out by the irritation, and finally

succumbs to the disease.

Treatment. The remedies most to be relied on are rest, leeching, cataplasms, fomentations, warm bathing and blisters. Calomel may be given with a fair prospect of benefit. The state of the bowels should be attended to, costiveness obviated by laxatives, and diarrhoea by astringents and cretaceous preperations. Opiates should be given to allay pain and procure rest. They should be given at bedtime, in order to insure composure and sleep. The diet should be regulated according to the circumstances of each case.