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Intraperitoneal Tuberculosis...

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INTRAPERITONEAL TUBERCULOSIS.

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TUBERCULOUS PERITONITIS.

CLASSIFICATION. After a considerable experience with tubercular peritonitis I have come to the conclusion that many of the classifications given are artificial and confusing. I consider that the disease occurs in two forms:

1. With fluid, (the ascitic form).
   (*a*) Serous;
   (*b*) Purulent.
2. Without fluid, (the dry adhesive form).

In either variety we may have tubercular disease in other organs or such disease may be entirely absent. When fluid is present it may be either serum or pus.

DEFINITION. Tubercular peritonitis is a disease of the peritoneum consisting of the deposit of tubercle in isolated patches, producing nodules causing inflammatory adhesions and, in some cases, the effusion of fluid, and affecting many of the organs covered by peritoneum, such as the ovaries, Fallopian tubes, uterus, bladder and kidneys, stomach, intestines and mesenteric glands, omentum, liver and spleen.

GENERAL CONSIDERATIONS. Of all the forms of chronic diffuse peritonitis the tuberculous is the most common and of the greatest clinical importance. In acute miliary tuberculosis the peritoneum, especially the omentum and the peritoneal covering of the liver and spleen, is studded with small grey miliary tubercles. This condition is oftentimes accompanied by serous effusion and is not attended by any symptoms that can be definitely ascribed to it. Under such circumstances it is part of the general tubercular infection. When it occurs apart from acute miliary tuberculosis it becomes a distinct disease with definite clinical signs. Small nodules are present and these nodules are similar in appearance to the nodules in miliary tuberculosis found elsewhere and require no special description.

There is a great tendency to the formation of a new tissue, and this tissue produces firm adhesions to one another of the parts affected, except when fluid is poured out separating the surfaces.

The omentum is often shortened and thickened until it can be felt through the abdominal wall as a hard mass that may easily simulate a malignant tumour. The mesentery and mesenteric glands are often found thickened. The bowel wall is very much thickened, injected with

blood, and velvety in appearance. The parietal peritoneum may be one-half an inch thick and the tissues of the abdominal wall, external to it, may appear œdematous as if filled with a turbid fluid, giving it a greyish appearance and looking just as the abdominal wall does external to an appendiceal abscess, or some intra peritoneal septic condition.

The quantity of fluid poured out varies very greatly. In some cases it is pocketed, in others encysted, and in others free in the peritoneal cavity. The fluid is blood stained serum. Sometimes there is no blood staining and the fluid is then straw colored. The fluid may become purulent but this is a rare occurence, except as a consequence of operative interference or intestinal perforation from within. Coils of intestine ulcerate, occasionally, into one another or into the bladder or through the abdominal wall. In some cases there is a complete absence of any chest affection; in others there may be tubercular pleurisy, while in another class of cases the lung tissue itself may be affected. Primary tuberculosis of the genito-urinary organs is often followed by general tubercular peritonitis.

It has been stated by some that there are two separate and distinct conditions in which the deposit of fibroid nodules takes place in the peritoneum. One of these is of tuberculous origin and the other of inflammatory origin. If this is so, it is strange that we do not meet with these fibroid nodules in all cases of subacute inflammation of the peritoneum. It is not difficult to explain the co-existence of tuberculous disease and tumor of the ovary or uterus. If a tuberculous diathesis exists in the patient, tuberculous deposits are liable to take place in parts in which irritation is present. If a growth is present, irritation is present, and it is but natural to suppose that tuberculous deposit is all the more liable to occur in cases in which there is a growth than in cases in which there is no growth. The fibroid of the uterus or the cyst of the ovary acts as the exciting cause of the deposit just as the inhalation of dust acts as the exciting cause of the deposit of tubercle in the lungs.

The age at which the disease may occur varies. In my cases I found it most frequent between the ages of 15 and 25; the youngest patient being 14 and the oldest 49.

Symptoms of Tubercular Peritonitis. In the female there is frequently some disturbance of menstruation. At first the menstrual flow appears to be increased in quantity. There may be irregular floodings; later on, amenorrhœa often sets in and a leucorrhœal discharge is frequently met with.

In many of the cases there has been a history of a previous illness that has, perhaps, been but ill understood. The patient has at the time suffered from abdominal pains and low fever, from which a partial re-

covery has taken place. Then emaciation sets in, together with enlargement of the abdomen. The patient feels an unaccountable weakness and, though the appetite may remain fairly good, the health becomes seriously impaired. The patient becomes anæmic. In some there is an irregular diarrhœa, perhaps with a discharge of blood-stained mucus. Nausea and vomiting are sometimes present. The temperature and pulse become elevated and a hectic flush appears upon the cheeks. The teeth become dry and covered with sordes. The tongue is glazed and red. Sometimes a cough sets in and râles may be noticed over some portion of the lungs or fluid may be found in the right or left pleural cavity. These patients may remain ill for many months ; they then look as if in the last stages of septicæmia. In some cases chest trouble may be noted before there are any abdominal symptoms.

The symptoms may run over a great many years. One of my cases was tapped six years prior to the date of my operation on her. In some cases the onset of the symptoms is quite sudden. This appears to point to the sudden entrance of the tubercle bacilli into the parts.

The character of the pain varies from a steady, dull, aching pain to very acute pain similar to that found in acute peritonitis.

PHYSICAL EXAMINATION. On physical examination, bowel resonance is found in front and dullness in the flank, if fluid is free in the peritoneal cavity, but, as a rule, bowel resonance is irregularly distributed. If the fluid is encysted, the area of dullness will be limited to one portion of the abdomen. Irregularly hard nodules may frequently be felt on palpation. A peculiar far-away feeling to the parts is to be observed if the peritoneum is thickened, or, in other words, there is an obscure, indefinite feeling not to be met with in other intra abdominal diseases.

Pelvic Examination in Women.—The bi-manual examination may indicate the presence of masses on either side of or behind the uterus. The pelvic cavity may be filled with such masses. Pelvic examination, under such circumstances, is as a rule indefinite.

DIAGNOSIS. The diagnosis lies between tubercular peritonitis ; chronic peritonitis, accompanying pus tubes or abscess of the ovary ; malignant disease of the peritoneum or cancerous peritonitis ; papilloma of the ovary ; ectopic gestation subsequent to rupture of the sac ; ovarian cyst ; and chronic appendicitis.

Pyosalpinx or abscess of Ovary, not tubercular. In a case of double pyosalpinx, or abcess of the ovary, due to direct infection subsequent to labor or abortion or from gonorrhœal virus, the history will give us some clue as to the real nature of the condition present. For instance, if the hymen is intact the chances are that the disease must be

tubercular. If the illness began subsequent to miscarriage the chances are that the disease is not tubercular, but it is only by a careful attention to details that a correct diagnosis can be made. Tubercular appendicitis will be rarely met with.

Malignant Disease of the Peritoneum. In malignant disease of the peritoneum the temperature is not, as a rule, elevated to such an extent as it is in tubercular peritonitis. Though the tongue is red and glazed the teeth are not covered with sordes. The skin usually has the faded leaf appearance and a crepitation can frequently be made out as a consequence of the attrition of the little pendulous grape-like bodies that hang free in the serous fluid filling the cavity of the peritoneum. I consider this crepitation as a valuable diagnostic sign of cancerous disease of the peritoneum.

Papilloma of the Ovary. In papillomatous disease of the ovary there is, as a rule, no elevation of temperature. A tumour can be made out and can readily be diagnosed as tumour of the ovary. Free fluid will be found present in the abdominal cavity. Operation is therefore undertaken for ovarian cyst. It will sometimes be impossible to differentiate between papilloma of the ovary and chronic tubercular peritonitis of the ascitic form.

Ectopic Gestation Subsequent to Rupture of the Sac. In one case I found symptoms closely simulating an ectopic gestation. Uterine hemorrhages after having missed a period, pains in the breasts, sudden pain in the abdomen, boggy, indefinite mass in the pelvis and free fluid in the peritoneal cavity. When peritonitis sets in, as a consequence of the rupture of a tubal pregnancy, it may be impossible to make a differential diagnosis between this condition and tubercular peritonitis.

Ovarian Cyst. In many of the cases an ovarian cyst may be mistaken for encysted tubercular peritonitis and *vice versa.* Amenorrhoea, enlargement of the abdomen, absence of fever, and evidences that the fluid has become encysted, will make it impossible for anyone to say whether the case is one of ovarian cyst or encysted tubercular peritonitis.

Chronic Appendicitis. Appendicitis may closely simulate chronic tubercular peritonitis and it is only after the abdomen has been opened that a correct diagnosis can be made.

ORGANS FOUND AFFECTED. In the cases tabulated below the conditions found at the operation are given. The reader can easily scan them over for himself. It will be found that there is a great deal of repetition and nothing is found there that is not included in the original definition of the disease.

SUBSEQUENT HISTORY. The number in good health after operation is 14; in fair health, 4; in poor health, 1; number without subsequent history, 9; making in all 28. There were 13 deaths: 6 died of phthisis pulmonalis; 1 of tubercular laryngitis; 1 of acute pneumonia; 1 of cerebral tuberculosis; 4 shortly after operation.

SUMMARY. One is bound to confess that but little more is known of this disease than was known years ago. No advance has been made. Many theories have been advanced as to the effect of operation, the surgeons have puzzled their brains to determine the exact manner in which surgical operation benefits the patient. Some have stated that it is the entrance of air; others that it is the increased congestion of the peritoneum produced (but it seems as if increase of congestion is almost impossible as the intestines are already so loaded with blood); others claim that it is the mixed infection that is introduced. The physicians state that we are "barking up the wrong tree," that surgical operation has no effect whatever, that patients do just as well without surgical interference and make as rapid and as complete recoveries. They state further that these recoveries are not influenced by the administration of drugs.

After everything is taken into consideration, we are forced to the conclusion that there is an inherent tendency in the tuberculous patient to cure himself. Something seems to act on him like the breezes on the surface of the water purifying the depths below. But our research does not appear to have brought us any nearer to a solution of the "mystery," to a knowledge of what that "something" is.

All the cases that have come under my care are not included in the table. I have treated others "without" surgical interference and am free to admit that the results have been satisfactory. As a surgeon, however, I prefer to operate on such cases as I still have a lingering belief that convalescence is somewhat hastened thereby. This belief may be an erroneous one.

TUBERCULAR DISEASE AFFECTING THE INTESTINAL WALL.

We have now to speak of tubercular disease affecting the intestina wall. In the table three cases of this kind have been noted. The portion of the intestinal wall affected in two of the cases was the omega flexure of the colon; in one case the small intestine was the site of the disease. In two other cases seen on which no operation was performed the omega flexure was also the site of the disease, so that it seems as if tubercular disease is particularly prone to affect this part of the bowel. One of my patients had been fighting against tuberculosis for years.

Symptoms.—The symptoms produced by the deposit of tubercle

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.
1	10	Mrs. K.....	36	J. Ross, Sr.....	.....	Rapid enlargement of abdomen. Facies ovariana ; shooting pains.
2	11	Mrs. C.....	35	——Wilson	.....	Sudden pain on left side of abdomen ; swelling of abdomen ; sickness at stomach ; bowels move every other day.
3	18	Miss B.....	16	L. G. McKibbon..	Mother died of tubercular laryngitis.	Thin, emaciated ; temperature and pulse elevated ; gradual enlargement of abdomen ; free purgation reduced it ; increased again ; pain at times ; no oedema.
4	23	Miss P.....	32	M. Stalker	....	Menstruation more profuse, lasting two weeks ; emaciation and anemia ; pain at neck of bladder ; frequent micturition ; chills, night sweats, pain in pelvic region ; no vomiting ; bowels regular.
5	35	Mrs. I.....	36	——Shaw.....	.....	Emaciation ; red tongue, coated in centre ; sordes on teeth, teeth dry ; abdomen began to enlarge Feb., '91 ; fullness and bloating ; loss of appetite ; derangement of digestion ; general weakness ; periodical fever, worse at night.
6	61	Miss D	23	.....	Mother and father died of phthisis.	Menstruation became profuse ; intra-abdominal pains and pelvic pains ; bloated feeling ; emaciation ; diarrhœa ; vomited in attack of cramps ; went to bed, pain severe ; constant on right side, slight on left, worse at times.
7	82	Mrs. L.....	28	G. H. Carveth....	....	Suffering some time ; after intra-uterine application a chill ; for many years had stiff knee joint, and from old scar evidences of bone disease ; temperature and pulse elevated.
8	90	Mrs. M.....	23	....	....	....

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation.	Subsequent History.
Bowel resonance in front and flank. Uterus small. Free fluid in peritoneal cavity.	Between tubercular peritonitis and malignant disease of peritoneum.	Mar. 28, 1890.	Intestines, peritoneum. Bowels glued together. Ovaries and tubes normal. Large quantity fluid present.	R	Died shortly after from phthisis pulmonalis.
.....	.....	Mar. 28, 1890.	Intestines distended with flatus. Peritoneum and intestines studded with tubercle. Large quantity of fluid. Abscess of right ovary. Haematocele of broad ligament, tarry fluid and pus on puncture. R't tube tubercular.	D	Was in a very bad condition before operation.
.....	Tubercular peritonitis.	June 18, 1890.	Intestines matted together. Fluid. Tubercle of intestines and peritoneum. Washed out. Drained.	R	A sinus for a time; in 1900 patient been married and in good health.
Lungs healthy. Pus in urine. Acid reaction.	Double pyosalpinx.	Aug. 16, 1890.	Omentum, intestines, peritoneum studded. Fallopian tubes filled with pus; not removed. Bowels matted. No fluid. Dry adhesive form.	R	Better for a few weeks; gradually became weaker; bladder symptoms increased; tubercular cystitis; lungs affected; death one year after operation.
Hardness irregularly distributed over abdomen; irregular tympanites; ascites; enlarged veins on abdominal walls.	Between malignant disease and tuberculosis of peritoneum.	Feb. 26, 1891.	Peritoneum, omentum, intestines studded; pelvis could not be reached owing to adhesions; encysted fluid; washed out, did not drain.	R	Died one month after; temperature remained elevated; patient gradually weakened.
Hymen intact. Rectal examination, masses to be felt in neighborhood ovaries.	Tubercular. ..	Sept. 29, 1891.	Ovaries cystic, omentum thickened and dark; recent peritonitis; serum in peritoneal cavity; tubes and ovaries removed; tubercles on walls, fallopian tubes and pelvic peritoneum; tubes not enlarged.	R	Improved in health; married about two years after; no further history.
General peritonitis chronic; large masses in pelvis to be felt.	Pus tubes	Mar. 18, 1892.	Peritoneum, intestines studded; tubes thickened to 6 or 8 times natural size and filled with pus; bladder implicated; attempted to remove tube; hemorrhage severe; tissue would not hold ligature; portion of intestine tore during enucleation.	D	Operation very difficult; died two days after operation.
.....	Tubercular peritonitis.	May 17, 1892.	Peritoneum thickened and studded with tubercle; parietal peritoneum about ¼ inch thick; intestines vascular rough and granular and matted together; no fluid; dry adhesive form.	R	Went home June 2, '92, and have no further history.

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.	Exa
9	165	Mrs. S.....	35	.....	.....	Ascitic fluid in peritoneal cavity..	.....
10	219	Mr. D.	14	M. Wallace	.....	Been ill six weeks; pains in abdomen, diarrhœa; temperature elevated every night; night sweats; commencing cough.	.....
11	222	Mrs. H	48	H. H. Moorehouse	.....	Been tapped six years previously and again recently.	Mass f side, and t on le ness sion fluid
12	270	Mrs. M. F....	31	J. R. Stone	Husband died of phthisis.	Menstruation always regular until nine months ago, when attack of indigestion she thought: five weeks bloated twice her natural size; missed one period; following month unwell and flowed steadily 2½ months; then unwell every two weeks until six weeks previous; since then seen nothing; leucorrhoeal discharge; steady, dull, aching pain region right ovary; sharp pain both limbs.	Uterus e d, and
13	275	Mrs. R	26	....	.....	Misplacement of womb had been diagnosed; elevation of temperature, 105½ for few days, and then dropped to normal; supposed to have had typhoid fever with night sweats and chills.	.....
14	279	Mrs. H.....	33	A. R. Gordon	.....	....	.....
15	292	Miss R	32	J. Thorburn	Father and mother died of phthisis.	Menstruation irregular; flooding; constant pain on right side; feverishness and sickness at stomach; pulse elevated; ill some weeks; several attacks of hæmoptysis; scars of two or three tubercular abscesses over ribs; one sinus re-opens at intervals.	Tender over r
16	299	Mrs. L	32	G. S. Jeland ..	.....	Pain in abdomen; temperature elevated for some time; someone diagnosed as ectopic gestation.	Free flui toneal abdon thicke peculi way" perito

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation.	Subsequent History.
.....	.....	Apr. 29, 1893.	Operation performed without anaesthetic; pains for a moment, but after peritoneum reached this ceased; large quantity of fluid evacuated: peritoneum and intestines studded.	R	Left hospital May 20, '93, and have no further history.
....	First thought it was la grippe; then tubercular peritonitis.	Feb. 23, 1894.	Peritoneum fully one inch thick; intestines adherent; impossible to wash out.	R	Is perfectly well.
Mass felt on right side, thickened and tympanitic; on left side dullness on percussion; evidently fluid encysted.	Encysted tubercular peritonitis.	Mar. 2, 1894.	Incision median line and found peritoneum very much thickened; impossible to enter abdomen through front owing to intestinal adhesions; another incision to left and fluid drained off.	R	Wound never healed, and patient died six weeks after operation.
Uterus retroflexed, enlarged and low down.	Pus tube, or abscess of ovary, right side.	Sept. 20, 1894.	Omentum glued down in front; peritoneum studded with tubercle; intestines adherent to intestine; removed nothing.	R	Good recovery; has since married but had no children; is quite well.
....	Probably tubercular peritonitis.	Oct. 12, 1894.	Omentum firmly adherent to parietal peritoneum; no fluid; of the dry adhesive form.	R	Have been unable to trace subsequent history, but when patient left hospital the temperature had reached normal limit.
....	.....	Jan. 7, 1895.	Stomach adherent over upper surface; stomach wall covered by tubercle; enlarged lymphatic glands behind stomach; other portions of peritoneum studded.	R	Subsequently suffered considerably from gas; in November, 1901, is stout and quite well; has never been sick since operation.
Tender to touch over abdomen.	.....	Feb. 21, 1895.	Old cheesy cyst of hydatid of Morgagni size of walnut; both tubes club-ended and filled with cheesy material; ovary healthy; evidences old tubercular disease in pelvis.	R	
Free fluid in peritoneal cavity; abdominal wall thickened, and peculiar "far-away" feeling to peritoneum.	Tubercular peritonitis.	Mar. 30, 1895.	Omentum firmly adherent beneath surface, pressed to one side; hole broken through and fluid removed; peritoneum studded. Washed out and drained.	R	Had pneumonia in lower lobe of right lung; two or three years afterwards she looked the picture of health; in interval husband died of phthisis.

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.	Phy Exami
17	319	Mrs. B	38	T. S. Wiley	.....	.....	.. ..
18	320	Miss E.	22	R. A. Corbett		Ill for 12 months; looked like patient in last stages of septicæmia or one suffering from tuberculosis.	.....
19	402	Miss M.....	22	M. Wallace		Temperature elevated; good deal of pain.	Mass tov side of some i thic right s
20	444	Mrs. B.	49	....		First diagnosed by someone as fibroid tumour, and electricity used.	....
21	485	Mrs. P. ..... (an Italian)	30	W. J. Fletcher .	....	No accurate history of menstruation; pain for some time.	Uterus right s mass i sac of fluctua tended left uterus as to r behind
22	535	Miss B	22	....	....	Menstruation always regular and normal; never ill until twelve weeks previous; soreness upper part of abdomen, and dull, heavy pain; pain more intense, sharp, and lower down; had to walk in a stooped position; pain worse in left than right side; confined to bed; abdomen swollen; weight of bed clothes painful.	.....
23	597	Miss C.	20	A. E. McColl	Lived in same house with sister-in-law who died of phthisis.	For some time trouble in chest; localized pneumonia; abdomen then swollen and swelling painless; fluctuation; hectic flush in cheek.	.....

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation.	Subsequent History.
.....	Either abscess of right tube or ovary, or localized tubercular peritonitis.	June 27, 1895.	Both coils of intestine adherent to one another; tubercular nodules through parts, also cul-de-sac of Douglas studded; reddish colored fluid in peritoneal cavity.	R	After operation was up and around and doing nicely, but one year and a-half after operation died from pulmonary phthisis.
....	Tubercular peritonitis.	July 12, 1895.	Intestines, pelvic and parietal peritoneum studded; washed out, drained.	R.	In spring of '99 got a wetting and had attack inflammation of lungs; died March, 1899; up to this time had improved; was fleshy and quite regular menstruation.
Mass towards left side of uterus; some indefinite thickening right side.	Pus tubes or tubercular disease in pelvis.	May 27, 1896.	Peritoneum, intestines and omentum; tubercular mass in pelvis.	R.	Never been well since although working; an abscess developed in side afterwards; this was opened and has almost closed again.
....	Tubercular peritonitis.	Aug. 18, 1896.	Peritoneum and intestines; large tubercular mass filling pelvis; large quantity ascitic fluid; washed out, abdomen sponged; not drained.	R.	
Uterus towards right side; large mass in cul-de-sac of Douglas fluctuating extended up to left side of uterus as well as to right and behind.	Obscure.	Jan. 27, 1897.	Omentum attached to uterus in front; mass on left side firmly adherent to rectum; during peeling process perforated; degenerated hydrosalpinx, and ovary with pus removed on left side; on right ovary and cyst firmly imbedded in adhesions; another perforation when removing right tube; all over intestines and peritoneum were tubercles; closed perforations; washed out.	R.	Operation extremely difficult; patient made a good recovery.
.....	Tubercular peritonitis.	June 8, 1897.	Omentum $\frac{3}{4}$-inch thick; everything matted together; bowel torn through; wall of bowel like a piece of tissue paper, studded with tubercle.	D.	Recovered from operation, but disease seemed to progress; temperature became subnormal on June 25th, remained so until 30th, when elevated to normal, then subnormal and she died July 2, 1897; no record of condition of lungs.
.....	Tubercular peritonitis.	Dec. 9, 1897.	Large quantity fluid; washed out, sterilized water; allowed air to enter, and placed drainage tube.	R.	In Jan. 3, 1898, doctor states patient sits up most of time; sinus is closed except small opening about $\frac{1}{4}$ inch deep; Nov. 19, 1901, patient in perfect health.

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.
24	619	Miss A	22	F. Oakley.....	Mother had been fighting against tuberculosis for years. Had several hemorrhages from lungs.	Always well until pain in abdomen and feeling of bloating; enlargement of abdomen.
25	622	Miss W	19	W. J. Fletcher		Menstruation regular until a few months previously, when amenorrhoea came on; loss of appetite, emaciation, enlarged abdomen.
26	640	Mrs. W. J....	37	F. E. Godfrey....		
27	658	Miss J.	22	J. C. Smith		Ill nearly three years; dimunition of menstruation, pains in abdomen, fever.
28	666	Mrs. W. C. C	34			Menstruation profuse for some months; a year previously severely ill for several months; illness unexplained.
29	679	Mrs. P ...	22			
30	694	Miss S.....	32	Jennie Gray ...		Menstruation ceased; abdomen enlarged; weakness and intra abdominal pains; no perceptible elevation of temperature.
31	735	Miss F	25			Menstruation recently excessive; pelvic pains; anaemia.

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation.	Subsequent History.
Free fluid in peritoneal cavity; temperature somewhat elevated.	Tubercular peritonitis.	Jan. 28, 1898.	Peritoneum, intestines, ovaries, tubes, uterus, all studded; large quantity fluid removed; small rubber drainage tube in cul-de-sac of Douglas.	R.	Made a good recovery, and remains in perfect health.
Fluid free in peritoneal cavity; hectic, lips dry, teeth dry; tongue smooth and red.	Tubercular peritonitis.	Feb. 1, 1898.	Intestines and peritoneum studded; quantity of fluid; washed out, allowed air to enter freely, and drained.	R.	Recovered from operation and left hospita improved; lungs became affected with tubercle, and she died of phthisis.
Hard mass in abdomen; a year afterwards increased and abdomen enlarged	Either tubercular or papillomatous.	Mar. 14, 1898.	Hard mass here and there produced by adhesions of intestine to intestine and omentum; quantity of fluid; washed out, but did not drain.	R.	Recovered from operation, but trouble returned, and she died in about five months afterwards.
Abdomen enlarged; mass on left side opening from vargina into abscess sac; this abscess had been opened by a doctor, and drained; another mass above and not communicating.	Tubercular pyosalpinx.	May 10, 1898.	Intestines and peritoneum studded; large pus tubes on left side.	R.	Patient left Lospital June 5th feeling fairly well; in December began having cerebral convulsions; died Jan. 1st, 1899.
....	Double pyosalpinx.	May 26, 1898.	Intestines, peritoneum and fallopian tubes studded; tubes filled with pus; were not removed.	R	Left hospital and have no further history.
Small tumor on right side of uterus, evidently cystic.	.....	July 2, 1898.	Intestines adherent to one another; peritoneal cavity obliterated; tumour of tube and ovary on right side studded with tubercle; did not remove; tissues friable.	R	No further history.
Nodules felt and free fluid in abdominal cavity.	Between tubercular disease and papilloma of ovary.	Sept. 2, 1898.	Omentum firmly adherent ant. abd. wall; intestines and peritoneum studded; fluid cyst of right ovary; tubercular nodules on left side.	R	Uninterrupted recovery; since, has had inflammatory condition, one wrist and knee, probably tubercular; these have subsided and general health very fair; for years has suffered from epileptic convulsions.
Nodule near fundus uteri, supposed to be small fibroid.	....	Dec. 7, 1898.	Cyst of right tube, tube and ovary glued together; cheesy mass near fimbriated end of tube; appendix running into ovary; tubercular nodules on peritoneum over uterus.	R	Menstruation ceased; Now, 3 years after operation, patient in good health, although not robust.

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.	Physical Examination
32	777	Mrs. L	29	.....	Father died acute pneumonia	.....	.....
33	788	Mrs. E	26	.....	.....	.....	.....
34	905	Miss S	22	.....	.....	Hectic; supposed low fever; abdomen enlarged.	.....
35	907	Mrs. C.....	...	.....	.....	Abdominal pain, supposed to be due to tear; trachelorrhaphy and curettage done; no better; elevation of temperature.	Tear in masses in vis.
36	925	Miss H ...	16	J. Guinane.....	.....	Abdominal pain; suffered intensely; vomiting.	Abdomen d ded, sord teeth, teet tongue and red; flush on c
37	951	Miss C	19	T. S. Wiley.	.....	Indefinite pains in abdomen; abdomen; enlarged; emaciated.	Evidence of citic fluic peritoneal ity.
38	988	Mrs. J. D. H.	36	W. Lehman.....	.....	Indefinite pain in abdomen; slight elevation of temperature; sharp attack of inflammation with temperature elevated.	Cyst of left o no evidenc ascitic fluic
39	994	Miss H	22	A. M. Baines....	.....	Bloating, pains on left side, some elevation of temperature, pallor of skin and redness of tongue; no amenorrhœa.	Abdomen en ed.
40	97	Mrs. J. W....	42	.....	.....	Indefinite pelvic and abdominal pains; sensation of bloating; no marked elevation of temperature; appetite poor.	Nothing def to be made pain contin

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation.	Subsequent History.
.....	.....	Mar. 31, 1899.	Fallopian tubes, broad ligaments, peritoneum, and cul-de-sac of Douglas, studded with tubercles; tubes filled with pus and removed.	R	Made an easy recovery from operation and have no further record.
.....	Tubercular peritonitis.	May 1, 1899.	Peritoneum and intestines studded; large quantity of fluid washed out and sponged dry.	R	After operation temperature dropped to normal and she left hostal June 12th; no further history.
.....	Impossible before operation.	April 24, 1900.	Intestines studded with tubercle matted closely together; no fluid; dry adhesive form.	R	Dec. 1901. Is married and feels as well as ever.
Tear in cervix masses in pelvis.	Tubo-ovarian disease, either specific or tubercular.	May 4, 1900.	Intestines, peritoneum, ovaries, tubes and uterus studded; dry adhesive form.	R	Hard masses in pelvis disappeared, and, though not robust, able to do her own housework.
Abdomen distended, sordes on teeth, teeth dry, tongue glazed and red; hectic flush on cheek.	Tubercular peritonitis.	July 10, 1900.	Peritoneum and intestines; adhesions broken and allowed air to enter; dry adhesive form.	R	Improved and able to be out, and at present is getting along nicely; no trouble in the lungs.
Evidence of ascitic fluid in peritoneal cavity.	.....	Sept. 25, 1900.	Intestines and peritoneum studded; large quantity of fluid; washed out with normal saline solution.	R	Doing very well; has gained flesh.
Cyst of left ovary; no evidences of ascitic fluid.	.....	April 8, 1901.	Left ovary and tube inflamed and matted together; ovary cystic and ruptured; right tube and left tube and ovary removed; broad ligaments, peritoneum over cul-de-sac, and both tubes studded.	R	Made a good recovery and continues in good health.
Abdomen enlarged.	Ovarian cyst.	May 20, 1901.	Intestines and peritoneum studded; large quantity encysted fluid in abdominal cavity. Washed out, allowed air to enter and placed drainage tube.	R.	Has improved in health and remains in good health to present time.
Nothing definite to be made out; pain continued.	.....	May 30, 1901.	Intestines and peritoneum studded; small quantity of fluid. Sponged out, air allowed to enter freely; no drainage.	R.	Returned home, menstruation ceased; is pretty well.

TUBERCULAR ULCERATION

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.
41	539	Mrs. H.....	28	.....	.....	Profuse menstruation ; supposed to have la grippe ; pain, discharge from bowels ; pain in pelvis increased by anything that jarred her.

TUBERCULAR DISEASE AFFECTING

42	728	Mrs. L.....	32	H. Hunt.....	.....	Bleeding from rectum for three months.
43	767	Mrs. B.	48	A. W. Nixon.....	Fighting for years against hereditary tendency to tuberculosis; went south several winters.	Taken ill with symptoms similar to indigestion, belching of gas, indifference to food ; emaciated.
44	976	Mr. N.	24	W. J. Fletcher ..	.....	Severe hemorrhage from intestine; loss of appetite ; feeling of weakness ; skin looked pale.

TUBERCULAR APPENDICITIS AN

45	871	Mr. S	25	T. S. Wiley.....	.....	Supposed attack of appendicitis some months previously; evidences of peritoneal inflammation

OF THE PERITONEUM.

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation	Subsequent History.
.....	.....	June 15, 1897.	Roughened nodular surface, about size of silver dollar, over left utero sacral ligament; right meso-salpinx studded with tubercle; tubes patulous; intestinal wall thickened and velvety and reddened from increased injection of blood.	R.	Remained fairly well until 5th week, when another rise of temperature took place; pink flush in each cheek; looked as if disease was going to proceed rapidly; improvement again took place and she returned home. In Aug, 1897, about as bad as ever, soreness and tenderness continuing, also anæmia.

INTESTINAL WALL.

Mass in wall of rectum and enlarged glands.	Malignant disease.	Nov. 23, 1898.	Tubercle in wall of rectum producing narrowing of the lumen of the gut; glands in meso-rectum enlarged; one removed for micros. exam.; large caseous gland over abdominal vessels near junction of renal vessels on right side.	R.	Made an uninterrupted recovery, and is now in good health; hemorrhages having ceased.
.....	Nervous dyspepsia, but not quite clear; afterwards intestinal obstruction.	Mar. 7, 1899.	Tubercular stricture high up in rectum, just over promontory of sacrum; tubercular nodules over other parts of intestinal canal; colotomy.	D.	Patient left the table in a very weak condition; bowel opened next morning. She only lived a few days.
Small mass to be felt in left iliac region.	....	Dec. 12, 1900.	Glands in meso-rectum enlarged throughout the whole of mesentery of omega-flexure up to descending colon; wall of rectum much thickened and studded with tubercle.	R.	Back at work again; in fair health.

ULCERATION OF ASCENDING COLON.

Mass to be felt on right side, neighbourhood of appendix.	Chronic appendicitis with probable pus formation.	Dec. 20, 1899.	Appendix bound along bowel; bowel mass of tubercle. For about 18 inches along ilium spots showing intra intestinal ulcers; ilium studded, other intestines not infected.	R.	Recovered from operation but succumbed in a few months from tubercular laryngitis.

at a given point in the intestine are, intestinal colic accompanied by irregular hemorrhages from the bowel. The patient becomes blanched as a consequence of the loss of blood, weakness is marked; they become somewhat emaciated and display a great indifference to food.

Physical Examination.—A small mass can generally be made out by examination under an anaesthetic.

Diagnosis.—The diagnosis lies between tubercular stricture, malignant stricture and syphilitic stricture. It is impossible to make a differential diagnosis between a malignant and tubercular stricture until after the abdomen has been opened. Syphilitic stricture, occurring low down, can usually be more readily made out One of the cases I have recorded was supposed to be suffering from nervous dyspepsia until symptoms of acute intestinal obstruction set in.

Organs found affected.—A mass of tubercle was found in the wall of the bowel producing narrowing of its lumen; the glands in the mesentery were enlarged. In one case an old cheesy gland was found high up over the abdominal vessels. In one case tubercular nodules were found in outlying districts surrounding the main tubercular mass. The wall of the bowel near the seat of the tubercular deposit was much thickened.

Results.—One patient died as a consequence of acute intestinal obstruction. Colotomy was done but, unfortunately, too late. The other two cases made an uninterrupted recovery. Surgical interference gained the credit but, I believe, had nothing whatever to do with the improvement.

Tubercular Appendicitis and Ulceration of the Ascending Colon.

One case of tubercular appendicitis and ulceration of the ascending colon is given in the table. This condition is rare. The symptoms were those of an attack of appendicitis, abdominal pain localized in the right iliac fossa, rigidity of the right rectus muscle, tenderness on pressure, elevation of pulse and temperature.

Physical Examination.—A mass to be felt in the right side in the neighborhood of the appendix.

Diagnosis.—The diagnosis in all such cases must lie between chronic appendicitis, with a probability of pus formation, and tubercular peritonitis. At the operation the situation of the ulcers could be readily made out, the appendix was bound down and appendix, caecum and ascending colon were studded with masses of tubercle. The patient, it may be noted, died within a few months from tubercular laryngitis.