SELECT CLINICAL REPORTS.

(Under this heading are recorded, singly or in groups, cases to which a special interest attaches either from their unusual character or from being, in a special sense, typical examples of their class.)

I.**Three Cases of Chronic Tuberculosis of the Fallopian Tube.***

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THE following examples of chronic tuberculous salpingitis came under my care within a period of two months, and well illustrate the slow progress and insidious course of this disease. It is now generally recognized that tubal tuberculosis is relatively frequent, but the appearances are not always characteristic, and thus the true nature of the infection may escape recognition. For this reason in two instances the diagnosis was confirmed by inoculation. This was carried out by Dr. Arthur Sellers (after the method introduced by Professor Delépine) in the Public Health Laboratory of the Manchester University, and to him I wish to express my thanks.

CASE I. Mrs. K., æt. 32, was seen on the 5th of May, 1906. She had been married two years, but had not become pregnant. She was somewhat thin, but appeared to be in good health, and had always lived an active life.

Seven years ago, she had an attack of pneumonia which lasted three weeks. Since then she had been quite well.

Menstruation commenced at fifteen, and is of the 28-day type, lasting normally about 5 days and being attended with slight premenstrual pain. For the last few months the flow had been excessive and had continued for 7—10 days, but had been unaccompanied by pain. There was no leucorrhœa,

Her father and mother were alive and well, as also were her five brothers and sisters. The father, now 70 years of age, had had an attack of hæmoptysis 7 years previously, but has apparently quite recovered.

The heart, lungs and abdominal viscera were normal. The abdomen was soft and free from tenderness: slight resistance was present on deep palpation of the left iliac region.

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The vagina was found to be normal. The uterus was acutely retroflexed and displaced to the right: the cervix small and soft. A cystic swelling occupied the left broad ligament, extending to the front of the uterus.

Examination under anæsthesia revealed that the uterus was firmly adherent to the pelvic floor. The cyst was apparently in the left broad ligament and the ovary could be recognized on its upper surface. The right uterine appendages were adherent, but were not obviously enlarged.

Abdominal section was performed. The omentum and small intestines were matted together by adhesions which roofed over the pelvic viscera. On separating these a large thin-walled broad ligament cyst came into view filling up the left side of the pelvis. The uterus, which lay below this at the base of Douglas's pouch and was adherent, was set free and brought forward. The left Fallopian tube, lying along the upper surface of the cyst, had become converted into a pyosalpinx. The right tube and ovary were found embedded in dense adhesions. As these were being separated the tube gave way and caseous pus escaped from the inner portion of the tube. The right uterine appendages were removed. The broad ligament cyst was enucleated together with the left Fallopian tube. The left ovary was apparently healthy and a portion of it was preserved. The abdomen was sutured in three layers and closed without drainage.

The temperature reached 100° on the day after operation and was thenceforward normal. Recovery was uneventful.

The patient has recently been examined by Dr. Steell, who reports that there are no signs of active tubercle in the lungs. The apices show slight emphysema which may be the result of a healed tuberculous focus.

Menstruation is now regular, continuing 4 days without pain. The general health is good.

Pathological report. Both Fallopian tubes were thickened, tortuous and irregular in outline with pouch-like dilatations. The inner third of both tubes contained caseating pus. The contents of the ampulla were viscid brown muco-pus. The peritoneal covering was roughened by fibrinous peritoneal adhesions, but no peritoneal tubercles were present.

No tubercle bacilli were found in cover-glass preparations of the tubal contents. On section, the mucous membrane was seen to be much thickened owing to a small-celled infiltration which showed a nodular arrangement. The epithelium was in many places intact. No giant-cell systems were found, though some of the nodules in the

mucosa resembled young tubercles. The microscopic appearances were not sufficiently characteristic to make an absolutely certain diagnosis, and no tubercle bacilli could be found in numerous sections stained by the Ziehl-Nielsen method. Two guinea-pigs were inoculated in the left hind leg with small portions of the mucous membrane. They were killed in 32 days. Both showed well-marked tuberculosis, and tubercle bacilli were found in the affected glands.

The ovary showed peritoneal fibrinous adhesions but no tubercles. On section the cortex was firm with areas of interstitial and follicular hæmorrhage. There was no evidence of tuberculous infection.

This case is an instance of diffuse tubal tuberculosis of a very chronic type, which had resulted in complete disorganization of the tubes, and had then become latent for an indefinite period. It is remarkable also in that although the patient was highly intelligent, no symptoms had been complained of throughout. It seems probable that a tuberculous infection of the peritoneum was the primary lesion and that the invasion of the tubes was secondary. The peritonitis had undergone a spontaneous cure, intestinal and omental adhesions being the only evidences of its existence. It is important also to note that, although the microscopic appearances of the lesions were not characteristic, inoculations showed that tubercle bacilli, virulent to guinea-pigs, were nevertheless present.

CASE II. Mrs. A., æt. 41, was admitted into the Manchester Northern Hospital on the 10th of May, 1906. She had been married 17 years and had borne six children; the last pregnancy had occurred six years previously.

Her general health had always been good, but she had lost flesh during the last seven months.

Menstruation began at 14, was of the 28-day type, lasted normally 5-6 days, and was unattended with pain. During the last four months the flow had been somewhat profuse and accompanied by severe hypogastric pain. All her confinements had been natural and had been followed by good recoveries.

The patient was anæmic, and had the appearance of having lost flesh. The heart and lungs were apparently normal. The abdomen was flaccid. It was however slightly distended by ascitic fluid. No resistance was felt on deep palpation. The liver was normal in size.

The vagina was patulous; the uterus bulky, anteflexed, and free from tenderness. Tubo-ovarian swellings of irregular shape and

nodular lay at each side of the uterus, reaching the pelvic floor. Peritoneal adhesions were numerous and firm.

Abdominal section was performed May 13th, 1906. Two quarts of clear fluid escaped. The parietal peritoneum was thickened, and deep red in colour. Small peritoneal cysts with clear gelatinous contents were present on the parietal and visceral surfaces. The omentum and intestines were apparently healthy.

Both Fallopian tubes were enlarged to the thickness of the index finger, and embedded in firm peritoneal adhesions. The ovaries were adherent to the tubes, somewhat enlarged and covered by peritoneal exudation. The uterus showed some velamentous adhesions over the fundus.

The ovaries and tubes were removed.

Owing to the dense adhesions in the pelvis a glass vaginal drainage tube was inserted for a few days. The abdominal wound was united in three layers.

The temperature reached 100° on the third day, and for ten days varied from 98·2 to 100·4.

The patient left the hospital in three weeks apparently well.

This patient was seen on November 20th, 1906. The abdomen was apparently normal; the uterus small and mobile.

She had, however, recently had an attack of pleurisy over the base of the left lung, probably of tuberculous origin.

Pathological report. Both Fallopian tubes are irregularly dilated and tortuous, and measure $12\frac{1}{2}$ cm. in length. The peritoneal surfaces are studded with grey miliary granulations. The fimbriæ are swollen and project from the ostia.

On section, the mucous membrane is found to be thickened and soft; it completely fills the lumen of the tube. In a few places caseation has taken place. No tubercle bacilli were found in cover-glass preparations made from the thickened mucosa, including a caseous portion. The peritoneal nodules show typical tubercle follicles. The surface epithelium of the mucous membrane is shown to be in most parts intact; below this, many tubercles are seen with round-celled infiltration and great swelling of the plicæ. The peritoneal lesions appear to be more recent in origin than those found in the sub-mucous tissue. A few tubercle bacilli were discovered in the mucous membrane after considerable search. A guinea-pig was inoculated subcutaneously in the left hind leg with one of the peritoneal nodules. Another guinea-pig was inoculated with a caseous portion of the mucous membrane. They were killed in sixty-six days. Both showed the lesions of well-marked tuberculosis, and tubercle bacilli

were found in the affected glands, two of which were examined microscopically. The *ovaries* are covered with recent peritoneal lymph and adhesions. They are normal in size. On section, small hæmorrhagic follicles are present with increased thickness of the tunica albuginea and dense stroma.

This is the only parous woman upon whom I have operated for tuberculous disease of the appendages. The lesions in the tubes are those of chronic diffuse, miliary tuberculosis of the mucous membrane. There is, however, little formation of fibrous tissue showing feeble reaction to the toxins of tubercle. The peritoneal granulations appear to be recent and secondary to the infection of the tubal mucosa.

The subsequent development of active tubercle in the lung suggests that the tubal infection is secondary to this, being conveyed either by the blood-stream, or by tubercle bacilli in the peritoneal cavity entering the abdominal ostia and finding there a suitable nidus for development.

CASE III. M.B., æt. 21, single, was admitted into the Manchester Northern Hospital, June 23rd, 1906.

She complained of recurrent attacks of pain in the abdomen, especially in the right iliac region.

At the age of 11 she had had an illness which was considered to be "tuberculous peritonitis." She had recovered and remained well for 4 years. She had then had an attack of "inflammation of the bowels," and had been in bed for some weeks. Since this time she had been able to go about and work in the mill, but had occasional attacks of abdominal pain and vomiting. These usually occurred a few days before menstruation. In the intervals she had felt quite well.

Menstruation began at 16, is of the 28-day type, lasts 2 days and is scanty. She has always had considerable pelvic pain two days before the onset of the flow. There is no leucorrhœa.

Her father and mother and 5 brothers and sisters were all alive and well; no family history of tubercle was elicited.

The patient was a well-nourished, healthy-looking girl. The heart, lungs and abdominal viscera were normal.

Examination. The abdomen was somewhat distended, but soft and free from tenderness. The temperature was normal.

The hymen was intact. The uterus was anteflexed, normal in size, and freely movable. Pelvic peritoneal adhesions were felt posteriorly, and especially behind the right broad ligament. A

definite tubo-ovarian swelling was present on the right side, partially fixed and tender to the touch. The left uterine appendages were not obviously enlarged.

A diagnosis of tuberculous disease of the uterine appendages with possible involvement of the vermiform appendix was made.

Abdominal section was performed June 27th, 1906. The parietal peritoneum was thickened and vascular. The omentum and intestines were free from adhesions and appeared to be healthy.

The uterus was anteverted. The Fallopian tubes were much enlarged and sausage-shaped, and their peritoneal surface showed many miliary tubercles. The right ovary and tube formed a mass embedded in adhesions. The left ovary was separate from the tube and apparently healthy.

Both Fallopian tubes and the right ovary were removed. The healthy left ovary was not taken away. The vermiform appendix, pelvic in position, showed peri-appendical adhesions and was removed. The abdomen was sutured in three layers and closed without drainage. Recovery was uninterrupted, the temperature being normal throughout.

The patient is now (November, 1906) in excellent health. Menstruation is regular and almost painless.

Pathological report. Both Fallopian tubes are enlarged in their whole extent to the thickness of the index finger. The isthmus for 2 cm. from the uterine cornu is narrow and firm. The abdominal ostia are occluded. Discrete miliary granulations are scattered over the peritoneal surface of both tubes, which are free from adhesions. The right ovary is much enlarged. The meso-salpinx and surface of the ovary show miliary tubercles with adherent lymph.

On section both tubes show typical caseous salpingitis, and contain semi-solid purulent secretion. In the outer half of the tube the mucous membrane is at least 2 cm. thick. The surface is caseous, but in the deeper layers many typical giant-celled systems and tubercles are seen with small-celled and epithelioid infiltration. The epithelium persists in the deeper layers of the mucosa. The muscular coat is atrophic and shows little reaction. The right *ovary* is in various places invaded by tubercles and giant cells destroying the surface epithelium and infecting the cortex.

Inoculations were not made in this instance, the nature of the process being quite obvious.

The interest of this case lies in the long duration of the symptoms—10 years. The tuberculous infection of the general peritoneum

appears to have undergone spontaneous arrest. In the Fallopian tubes, however, the process continued and resulted in destruction of the mucous membrane. As a result of occlusion of the abdominal ostia the infection remained limited. The recurrent attacks of pain were clearly associated with menstrual congestion and resulted in local exacerbations of pelvic peritonitis.

Mode of infection. In all three instances the general peritoneum showed evidence of tuberculous infection, and it is probable that the tubes were infected from the peritoneal cavity. The conditions existing in the tubal mucosa are extremely favourable to the growth of tubercle. In each case, too, the mucous membrane was the portion primarily involved and both tubes were affected, as indeed is almost invariably the case in tuberculous salpingitis. The peritoneal tuberculosis had undergone complete arrest in two instances (Nos. i. and iii.). In one case (No. ii.) hydroperitoneum was present.

There was no clinical evidence of uterine infection, and I believe this to be relatively infrequent in tubal tuberculosis except in the rare instances of "ascending" infection. The isthmic portion of the tube appears to offer considerable resistance to invasion of tubercle: the epithelial and muscular tissues proliferate, and occlusion of the lumen supervenes at an early stage of the disease.

Treatment. If tuberculous disease of the appendages is suspected or recognized I believe that removal by operation is the only safe course. Even if the disease is latent, infection still exists in the tube and is pathogenic for guinea-pigs, although it is possible that the patient may possess at least relative immunity. The ovary is very resistant to tubercle, and may escape infection, even in advanced cases, and one ovary should always be left if possible. The uterus should not be removed unless there is distinct evidence of tuberculous infection.