THREE MESENTERIC TUMOURS.

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THE three tumours, details of which are given below, are of interest, not only by reason of their position, but also on account of the uncertainty of their pathology. If the most probable diagnosis, viz., tuberculosis, be the correct one, they also serve to illustrate an unusual form of this disease as it occurs in the abdomen, a form, moreover, which admits of satisfactory treatment.

For permission to publish these notes I am indebted for the first two to Sir Alfred Pearce Gould, under whose care the two patients were admitted to the Middlesex Hospital, and for the third to Dr. C. E. Lakin, formerly Curator of the Hospital Museum.

CASE I.

E. S., a single woman, age 29, was admitted June 30, 1912. Her family history was good. Eighteen months previously she had an attack of 'bronchopneumonia.' Nine months before admission she had suffered with an attack of pain in the right iliac fossa lasting several hours. Fourteen days before admission she had a second attack, and she still complained of pain in the same region, and also in the mid-line just below the umbilicus.

The patient was a well-nourished, healthy-looking girl. Temperature 98.4° C., pulse 88. On examining the abdomen, there was very definite tenderness over the appendix. Just below the umbilicus a tumour could be felt. This tumour had an irregular outline, in size about that of a Tangerine orange. It was dull on percussion, slightly movable from side to side, but all manipulation was painful. A diagnosis of appendicitis was made, the nature of the tumour being doubtful.

Operation.—*July 2, 1912.* The abdomen was opened by a vertical incision in the lower half of the right semilunar line. The appendix, which was chronically inflamed, was removed. On investigating the tumour, it was found to be situated in the mesentery of the ileum, half-way between its root and attached border. It was yellow in colour, with enlarged mesenteric veins coursing over it. It was lobulated in outline, and varied in consistency, the central part being clearly fluid, whilst round the edge it was firmer and semi-solid. An attempt was made to enucleate the whole tumour from between the layers of the mesentery. But after some time had been spent in careful dissection, during which the tumour wall was broken through and part of its contents escaped, it became clear that to persist in the attempt at complete removal would not only be a prolonged and tedious operation, but would also imperil the vitality of that part of the gut the veins of which were crossing the tumour. It was decided, therefore, to remove as much as possible. The anterior wall of the cyst was cut away, and the contents, both fluid and semi-solid, were carefully wiped out. The bleeding was dealt with, and the abdomen then closed in layers without drainage.

The patient made an uninterrupted convalescence, and left the hospital three weeks later. At that time there was nothing abnormal to be felt in the abdomen, but she was advised to go into the country for rest and open-air treatment for a period of three months. At the end of this time she returned to her work as a children's nurse, in apparently perfect health.

Pathological Report.—That part of the wall of the tumour removed showed that the cyst consisted of a number of loculi surrounding a central cavity. On

section, the wall was composed of dense fibrous tissue, with slight round-celled infiltration in places. No epithelial elements could be detected.

The contents were partly fluid and partly semi-solid: the fluid portion, of pus-like character, was composed of a granular and fatty *débris*; no pus-cells were present, and no organisms were isolated. The semi-solid part, of putty-like consistency, was composed of caseous material, with here and there gritty calcareous particles.

CASE II.

A. S., a married woman, age 39, was admitted to the Middlesex Hospital on October 4, 1912. She was a healthy-looking woman of spare habit, and complained that for the last three or four years her lower abdomen had been gradually getting larger. Apart from this, she had absolutely no symptoms. Her family history was good, and her previous history disclosed nothing but an injury to her right fibula (? fracture) at the age of 11.

Her heart and lungs were normal, and her urine contained no abnormal constituent. On examining the abdomen, it was at once apparent that there was a tumour projecting just above the pubes in the middle line. It felt about the size of a large orange, was smooth on the surface, spherical in shape, fluctuated, and was not tender. There was impaired resonance over it, but normal resonance above and on each side; and it was freely movable, especially upwards. The tumour could be felt per vaginam, but its freedom from the uterus and appendages was quite clear.

Operation.—October 8, 1912. The abdomen was opened by a median sub-umbilical incision, four inches in length, the patient being placed in the Trendelenburg position. The tumour was found to be situated between the layers of the mesentery of the ileum, about four feet from the ileocaecal junction, and so placed as to leave two inches of unaltered mesentery between the tumour and the gut. There were no adhesions to surrounding coils, and no enlarged mesenteric glands could be felt. The tumour was delivered out of the abdomen, and the superficial layer of the mesentery incised. By blunt dissection the mesentery was stripped off, and the tumour enucleated whole (*Fig. 10*). The cut edges of the mesentery were united by two or three interrupted thread sutures, and the abdomen closed with three layers of sutures.

The patient made a normal convalescence, and left the hospital on October 29. On December 20, 1912, the patient reported herself as quite well.

Pathological Report.—The tumour, the size of a small cocoanut, was cut across and found to consist of two cavities completely divided by a transverse septum (*Fig. 11*). Both cavities were filled with the same material, a thick creamy fluid of greenish-yellow colour. On emptying the cysts, the lining, in most places smooth, was here and there covered with plaques of sticky material of the same colour. Microscopically, a section taken at the junction of the septum with the cyst walls showed that the wall of each cyst, as well as the septum, was composed of tough fibrous tissue with no epithelial lining, with in places collections of large plasma and small round cells.

The fluid contents were composed of fatty and granular particles. No organisms were isolated from the fluid.

CASE III.

The third tumour was obtained post mortem from E. S., a man, age 73, who was admitted to the Middlesex Hospital on May 1, 1895, and died of chronic interstitial nephritis two days later. The tumour was noticed during the patient's lifetime in hospital, and in reply to questions, he stated that he had known of it for sixteen years. It had given him no inconvenience, and had been variously diagnosed by surgeons in different parts of the world—the patient was a sailor—as a floating spleen or floating kidney. Its great mobility is shown by the patient's statement that sometimes it lay on the right side, and sometimes on the left, of his abdomen.

The tumour was smooth on the surface, rounded in outline, elastic, and freely movable. The percussion note was dull over the tumour, with resonance all round.

At the time the patient was examined, it was situated to the right of, and below, the umbilicus. On firm pressure the wall of the tumour was felt to yield with a crackling sensation.

The post-mortem records state that "six feet from the ileocaecal junction there was a cystic tumour the size of an ostrich egg, between the layers of the mesentery, with a coil of ileum spread out over its convexity. The wall of the tumour was an eighth of an inch thick, smooth on its outer surface, but roughened internally owing to the presence of flat calcareous plates in places. The contents of the cyst were 4 oz. of creamy material. No hairs were to be found in this."

A microscopical section of the wall of the cyst, made recently for the purpose of this report, showed a structure exactly comparable to that found in *Cases I and II*, i.e., dense fibrous tissue with no epithelial lining.

It is clear that no one of these tumours belongs to a recognized pathological variety of mesenteric tumour, although the third one had been catalogued for many years as a mesenteric dermoid. Apart from the fact that all mesenteric dermoids hitherto reported have occurred in the female sex, no trace was found in this tumour of any typical epithelial product such as hair, teeth, or perles. A similar absence in the other two cases excludes the diagnosis of dermoid in them also. It is true that suppuration in a dermoid, hydatid, or other cystic tumour may render its diagnosis with certainty difficult; but in these cases there was nothing in the specimens themselves, or in the histories, to suggest suppuration, such inflammation as was present in the first case being merely a superficial extension from the adjacent appendicitis.

How, then, is one to explain the origin in this situation of tumours which are single, circumscribed, and symptomless (apart from their mere bulk), and which consist of a fibrous wall enclosing semi-solid or fluid contents which, under the microscope, consist of a fatty, granular, and in part calcareous, débris? Such a description is at once suggestive of a 'cold abscess'; and raises the question, are they tuberculous in origin? But neither tubercle bacilli nor giant-cell systems were to be found in any of them. The presence of either of them would, of course, settle the question. Does their absence negative this explanation? Not of necessity, for lesions of undoubted tuberculous origin do occur in other parts of the body in which the typical appearance of cells or the causative organisms are extremely difficult to find. The evidence in favour of these tumours being tuberculous is supported by their close resemblance to the following three cases in which the diagnosis was made with certainty.

The first was recorded by Beatson in 1898, under the title of "Case of Excision of Large Tuberculous Abscess." The patient was a boy, age 4, who a week before coming under notice was observed by his mother to have a "lump in his belly." His chest and urine were normal. In his abdomen a lump the size of a cocoanut was felt. It was situated just below the umbilicus, was smooth on the surface, and movable from side to side. At the operation, it was found to be situated in the mesentery. With difficulty it was removed entire, a few enlarged mesenteric glands being also found. The patient made a good recovery. Pathologically, it was a "typical tuberculous abscess."

The second case was that of Kukula, published in 1899. His patient was a woman, age 39, who complained of intermittent pain in her back

FIG. 10.—*Case II.* MESENTERIC TUMOUR AFTER ENUCLEATION.

FIG. 11.—*Case II.* SECTION THROUGH THE TUMOUR.

and abdomen of three months' duration, and increasing severity. A tumour the size of a goose's egg was found in the abdomen below and to the left of the umbilicus, crossed by a transverse groove. Its surface was smooth, it appeared solid, and was very freely movable in all directions. Inflation of the colon demonstrated that the tumour lay below the transverse colon, and to the inner side of the descending colon. It was not connected with the pelvic viscera. A diagnosis of solid mesenteric tumour was made, and exploration decided upon. The tumour was found to be situated in the root of the mesentery. A few small glands were felt in other parts of the mesentery. An attempt at enucleation failed, and the tumour was therefore removed entire, with the involved mesentery and attached intestine. In this operation over seven feet of ileum was resected. The tumour measured 3 by 2 inches, was soft in the centre, firm all round. Microscopically, tubercle bacilli and giant cells were found, and fluid granular detritus. The patient died two and a half years later, and the autopsy revealed caseating mesenteric glands, one of which had burst into the peritoneum and set up a fatal tuberculous peritonitis.

The third case, published by Baum in 1902, was a man, age 27, who had complained of abdominal pain for seven weeks. He was found to have a tumour, the size of the palm of the hand, situated just under the umbilicus. It was dull on percussion, did not yield a sense of fluctuation, and was movable from side to side. At the operation it was found to be a nobbly mass, the size of a fist, in the root of the mesentery. It was excised complete, together with a length of ileum. Pathological examination showed it to be a multilocular abscess containing thick creamy material. Tubercle bacilli and giant cells were found in the wall, and a crop of miliary tubercles in the adjacent mesentery. Three and a half months later the patient was in perfect health and still gaining weight.

In all these cases it is safe to assume that the mesenteric lymphatic glands were the structures involved. But tuberculosis of these glands is common, whilst these tumours are rare. Is it possible to harmonize their occurrence with the clinical manifestations of tuberculosis in general and with the more normal manifestations in the abdomen? It is not uncommon to find, when operating in the abdomen for some other condition, one or more enlarged glands in the mesentery. The enlargement is usually ascribed to tubercle, and such glands, as a rule, either with or without treatment, remain free from any harmful effect on the patient. Such cases are strictly comparable to the isolated, frequently healed, tuberculous lesions found post mortem in the apices of the lungs. In other words, the resistance of the individuals is able to limit and rapidly overcome an invasion by the tubercle bacillus in one or other situation. Still better known, however, are the cases in which the natural resistance breaks down before the infection, with the result that the disease advances and spreads, giving us, in the case of the mesentery, the clinical picture of 'tabes mesenterica,' with its masses of breaking-down glands infecting the peritoneum on all sides and producing the constitutional effects of advancing tuberculosis; or, in the case of the lungs, a progressive caseating bronchopneumonic type of phthisis.

But it is easy to imagine an intermediate condition in which the forces are more evenly balanced, and in which, after a preliminary advance on the part of the tubercle bacilli, the body improves its powers of resistance, and checks all further advance without being able to repair the damage already done. That this occurs in pulmonary infection is shown by the cases in which one or more old-standing tuberculous cavities are found in the lungs, which have not been further affected. It is surely not stretching the imagination to see in these cases of isolated tuberculous abscesses in mesenteric lymphatic glands a similar pathology, and to regard them as cases of *arrested* mesenteric tuberculosis. We are familiar with cured tuberculosis in this region, and also with progressive; but it is this arrested form which is perhaps overlooked, in spite of the fact that when it occurs it demands surgical treatment.

The notes of the five cases operated on show that in four of them the tumour was removed entire. That this is the ideal operation there can be no doubt, although the after-history of one of them demonstrates the possibility of some other focus causing active disease subsequently. The surgeon encounters two difficulties in dealing with mesenteric tumours: the tumour may be so near to the bowel that its removal without sacrificing a length of bowel is impracticable; or so near the root of the mesentery that the large vessels, particularly the mesenteric veins, are endangered.

The successful removal of the entire tumour should mean the conversion of an arrested tuberculosis into a cured one, and the attainment of such an end well repays the surgeon for the patience and careful dissection which are needed.

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