ON THE
(SO-CALLED)
SPONTANEOUS DISAPPEARANCE OF SOLID
ABDOMINAL TUMOURS.

WITH THREE CASES.

BY
J. GREIG SMITH, M.B., C.M.,
SURGEON TO THE BRISTOL ROYAL INFIRMARY; PROFESSOR OF SURGERY,
UNIVERSITY COLLEGE, BRISTOL.

Received December 4th, 1893—Read January 23rd, 1894.

My purpose in the following communication is to call attention to a class of solid abdominal tumours which seem to spontaneously disappear. I shall ask your attention only to cases which have come under my personal observation; and I shall offer for criticism a theory as to their origin.

The leading features in the cases to be quoted are, first, the presence of a visible and palpable solid tumour of the abdomen; secondly, total absence of signs of inflammation, local or general; thirdly, diagnosis of malignancy after inspection during exploratory operation; and fourthly, complete disappearance of the tumour with restoration of the patient to health.

I shall in the first place briefly report the cases.

CASE 1.—My first case was met with in June, 1889, and was reported in detail in the 'Lancet' of March 21st, 1891. A summary of the most striking features may here be given.

The patient, a young man of twenty-five, was sent to the Bristol Royal Infirmary on June 1st, 1889, by Dr. Fairbanks, of Wells. He was then suffering from intestinal obstruction. The cause of the obstruction was found on operation to be a solid tumour as large as a cocoanut occupying the left iliac region. An aspirator needle introduced into the growth proved it to be solid. Intestines were in several places adherent to it. It might have been removed, but as the patient was ill from the obstruction, and sarcoma was diagnosed, it was considered advisable to be content with intestinal evacuation and drainage. Enterostomy was performed in the lower ileum, the gut being fixed in the median parietal incision. For about a fortnight nearly all the fæces passed through the artificial opening; but gradually fæces, in increasing amount, appeared by the rectum. When the abdomen was flat the tumour caused quite a marked and localised bulging in the left lower abdomen, and was easily palpable.

At the end of six months it was evident that the intestinal passage had been restored, so the artificial opening was closed by operation. At this time no tumour could be felt through the parietes; and at the time of operation the finger inserted into the abdomen felt only adhesions, but no trace of tumour.

The patient rapidly regained strength and put on flesh; and now after four and a half years remains quite well.

CASE 2.—The patient, a widow æt. 50, with grown-up sons and daughters, was under the care of Dr. Davis, of Clevedon. She had been accustomed to lead a very

active life, and had enjoyed her usual robust health till the spring of 1889, when she observed a gradual failure in her powers. The weakness increased till autumn, when, on October 26th, she fainted on walking uphill on her way from church. Then Dr. Davis was called in. His account of her condition is that he "found her looking worn and ill, with an anxious expression and sallow complexion. There was no rise in temperature. On examining the abdomen, he found a hard dense swelling occupying the umbilical region, adherent to the skin at the umbilicus, and movable with the parietes. At the umbilicus was a small, boggy, uneven swelling, semi-fluctuating and suggesting abscess."

On November 4th, 1889, I saw her, and on November 8th I operated. A small subcutaneous collection of muco-pus (about two drachms perhaps) lying under the skin of the umbilicus was evacuated, and the abscess wall was scraped and desepitised. No sinus was discovered. Then the abdomen was opened and the tumour explored. It was perfectly globular in shape, about six inches in diameter, and firm in texture. It rested on the posterior abdominal wall but was not adherent to it, and caused visible bulging of the anterior parietes. Around the umbilicus it was fused with the peritoneum and parietal tissues, and its removal would have necessitated excision of an elliptical piece of the abdominal wall. On the right side and behind, the tumour was smooth and free. On the left side several separate coils of small intestine were closely adherent to the growth, but not embedded in it. To free these intestines would have been almost impossible, and the diagnosis being peritoneal cancer which was becoming diffused, an attempt at removal would have been improper. The operation was therefore abandoned.

A hopeless prognosis was given. The growth was said to be cancerous, and was unremovable because it had invaded the intestines at several points. The diagnosis of cancer was confirmed by the gradual loss of strength and flesh, the sallow complexion, and the total absence of

pain, elevation of temperature, or other symptoms pointing to inflammatory origin.

However, diagnosis and prognosis were both happily wrong. The patient began at once to improve in general health. A sinus continued to discharge pus for a year ; the discharge ceased for six months, reappeared and continued for six months more, and finally healed and has remained closed till now. The patient at the present day is quite well and strong, leading her ordinary active life, and the tumour has completely disappeared.

Case 3 was under the care of my colleague Mr. Harsant, who very kindly gave me abundant opportunities of examining the case, and has given me permission to include it in my report. The patient, a nursemaid æt. 19, was admitted to the Bristol Royal Infirmary on January 9th, 1892. About six months previously she began to complain of feeling weak and ill, and soon after detected a swelling or lump on the right side of the abdomen. The weakness increased and the tumour grew larger, but there was no pain or evidence of disturbance of any vital function. She could eat and sleep well ; the bowels acted regularly and naturally ; menstruation was normal and there was no loss of flesh. There was only this feeling of weakness, and the abdominal tumour.

The tumour was a solid one, and occupied nearly the whole abdomen, distending chiefly the right side, and apparently in bulk about equal to a uterus pregnant eight months, but rising higher in the abdomen and not dipping into the pelvis. On percussion there was absolute dullness everywhere in front from sternum to pubes, a small area of resonance in the right flank behind, and a large area of resonance in the left flank. On January 11th the growth was exposed by an incision four inches in length. Some odourless cloudy fluid escaped as adhesions between the growth and the parietal peritoneum were separated. No intestine was seen. The growth was closely adherent

behind and at the top under the ribs, and would have been removed with great difficulty. As, however, it appeared to all of us who saw it to be undoubtedly malignant and to have formed intimate connections with unremovable organs, the operation was abandoned and the wound closed.

On January 19th the wound began to gape, and in a few days a fæcal fistula was formed. Through the fistula all the fæces passed for nearly three months, and simultaneously the tumour gradually diminished in size. On May 1st, the tumour having almost disappeared and there being proof of pervious intestine below the fistula, Mr. Harsant exposed the gut and closed the opening by sutures. On May 6th the wound was found to be quite healed. On June 21st she was discharged practically well, and since then she has continued quite well and strong. There are now no traces of tumour to be felt.

These cases made a strong impression on myself and on all who saw them and watched their progress. Here three solid tumours, the smallest as large as a good-sized coconut, the largest not less than an eight months' pregnancy, none of them showing the slightest evidence of inflammatory origin, and none of them being interfered with, disappeared. The diagnosis of malignancy, confidently made on ordinarily accepted clinical grounds, was erroneous. Their evanescence contradicted one essential, almost defining, conception of malignancy. No explanation of their origin and nature that was at all satisfactory could at the time be given.

In my experience the spontaneous disappearance of products that could be at all compared with new growths was limited to myoma, to masses of tubercle, and to inflammatory new growth—peritonitic or cellulitic.

In the case of myoma uteri I have had one where the tumour disappeared after a simple exploration, and two where disappearance followed removal of sloughing portions through the parietes. No doubt similar cases

have occurred in the practice of most surgeons. It is a well-recognised fact that from trivial causes, physiological or traumatic or therapeutic, fibroids may undergo atrophy or involution. But there could be little doubt that these growths were not composed of inorganic muscle or any tissue allied to muscle, and it would be futile to force the comparison.

So also the analogy of disappearing tubercular peritoneal growths must be dismissed—at least so far as their ordinary behaviour is concerned. For, in the first place, the gross products forming such new growths are removed by physical means, and germicides are introduced. And, in the second place, if the growth re-accumulates and then disappears, such result may usually be attributed to the invasion of a class of micro-organisms which have a liquefying power over inflammatory products and succeed in overcoming the coagulative or constructive power of the tubercle bacillus. A remarkable example of this process is now going on in a patient of mine. After removal of masses of tubercular growth from the abdomen of a child recurrence took place, and a sinus formed through the abdominal incision. Putrefaction occurred during the child's stay outside the Infirmary, and she was readmitted with a discharge from the sinus of enormous quantities of highly offensive pus swarming with saprophytic bacteria. The tubercular growth, in mass at least as large as the child's head, melted away, and now none is to be felt. The reported disappearance or arrest of malignant growth after infection with the products of the micro-organisms of erysipelas has a suggestive bearing on this line of argument. But the reasoning could not be applied to these cases without unduly magnifying facts.

Nor, again, had the growths any close affinity with those masses of indurative or "caking" cellulitis which we meet with in the areolar tissues under the peritoneum, and especially in the iliac and pelvic fascia. Such cases of slow indurative cellulitis do indeed sometimes closely mimic malignant growths. Quite recently I was called

upon to give an opinion as to a case of this sort where a tumour diagnosed after abdominal section by a skilled surgeon as sarcomatous had subsequently greatly diminished in size. In this case an exaggeration of the cellulitic thickening and a minimum of pyrexial signs had contributed to a simple error in diagnosis. Cases of cellulitis, lasting a long time, with little pyrexia, and with sharply defined margins, anywhere in the lower abdomen, and especially in the broad ligament, are liable to be mistaken for tumours, and are sometimes submitted to operation on this diagnosis. A cellulitis in the mesentery might conceivably explain these growths as regards some of their features, but not all.

True peritonitic thickening sometimes reaches enormous dimensions. In the presence of an irritating cause, sub-acute or chronic, the peritoneum may become thickened to the depth of an inch or even more. In my experience the greatest amount of thickening is found not around a pyogenic focus, but from some source of irritation which is more or less mechanical. And yet the greatest amount of peritonitic thickening which I have ever met with occurred in a case of recurrent appendicitis on which I operated. The patient was under the care of Mr. Forty, of Wootton-under-Edge in Gloucestershire, and the striking feature of it was the presence of a tumour as large as the clenched fist, visible and palpable in the right loin, which could be moved about, and was apparently circumscribed. The amount of peritoneal thickening found on operation was truly extraordinary; in some places it must have been two inches thick. In the centre was found the appendix, the tip of it lying in a little glairy mucoid fluid, perhaps a drachm in all. The appendix was perforated, but it evidently was closed at the intestinal junction, and the fluid which presumably was the cause of the peritonitic thickening was only the proper secretion of the glands in the appendix. It seemed almost a justifiable step in the reasoning to argue from this case to the first of the three which I have recorded, but the step seemed too long to

pass to the third. And in the case of appendicitis, or protective peritonitis, as it may be called, the circumscription was only apparent, it was not real. The thickening passed between the intestinal coils in all directions, diminishing in bulk as it left the centre, and did not form a simple globe on which the intestines were glued as in the cases under discussion.

Now in such cases as those of plastic appendicitis it ought to be possible to isolate the causes that produce, in some, fine cord-like adhesions; in others, a diffused gluing of the intestinal coils with little thickening; and in a third class, enormous thickening with circumscribed adhesion of coils. When it happened that amongst the cases of plastic appendicitis which I have been called to operate upon, another case with great thickening had also a small collection of glairy muco-pus in its centre, I could not avoid the suggestion of a cause superadded to mere irritation or infection—a specialised effect to meet a specialised cause. It was certainly not a question of simple duration of irritation; the cases with greatest thickening need not be those of longest standing. There was something superadded, and this something seemed to me to be a continuous escape in minute quantities of some extraneous fluid into the peritoneal cavity, and the concomitant isolation and disposal of this fluid by the peritoneal cells.

It seemed that in this way might be explained the origin of these solid tumours. They were simply aggregations of embryonic cells and tissues, heaped up around an intestinal perforation. The perforation was minute, and the amount of escaping fluid was small, so that the cells could effectively deal with it. The perforation remained open for a long period of time, and the continued demand for new cells resulted in an aggregation which was practically a tumour.

In perforation of the appendix the glandular secretion escaped into the general cavity, and the thickening was diffused between the bowels. In these growths the new

material was definitely circumscribed and globular, and the intestines were only superficially attached to it. To explain this, I inferred that the perforation did not actually go through the peritoneal membrane, but passed through the mucous, fibrous, and muscular coats. And it would be situated somewhere on the gut away from its mesenteric attachment.

The process once started would seem to have an almost unlimited power of extension. The embryonic tissue once vascularised could produce cells at a geometrical rate, and would be capable of dealing with extravasated fluids in greater amount. In the third case the enormous size of the tumour was associated with preparedness to discharge great quantities of fæces through the perforation. In the second case the smaller tumour was associated with a fistula, which discharged only a little mucus. In the third case the necessity for treating an accidental obstruction of bowel concealed any evidence as to the existence of a fistula.

Expressed in terms of modern pathology, the process would be one of phagocytosis. We should say that the power of the peritoneum in its endothelial or its cellular tissue elements to produce microphages and macrophages, leucocytes and plasma cells, was almost without limit, and that the discharge of foreign matter of a certain sort in quantities not too abundant for them to deal with, and continued over a long period of time, might be the cause of this heaping up of phagocytes. The tumour is, in fact, composed of zone upon zone of protective phagocytes heaped up around a minute perforation in the bowel. Whether the source of irritation is purely liquid, or solid particles suspended in liquid; whether it is from an intestinal gland or composed of ordinary intestinal contents, I cannot say, and I should not like to speculate. All that I venture to suggest is that such a cause producing such results as I have described in these three cases would not be out of harmony either with pathological processes or with clinical facts.

If we accept such a theory, the unscientific postulate of spontaneous disappearance gives way to a simple sequence of cause and effect. In each of these cases the disappearance of the growth was associated with the probable closure of an intestinal fistula. In one there was a sinus discharging muco-pus for two years; the discharge was not faecal, but it may have been intestinal; it certainly had an external vent. In another, by enterostomy all the intestinal contents were diverted above the tumour, and the supply of foreign matter was cut off. In the third, a faecal fistula formed, through which the foreign matter escaped, and phagocytosis was not called for.

The mode of cure was in each accidental. It happened that, as nature so often does, in one case the disease had worked its way to the surface, and the surgical division of the skin only accelerated what nature would have succeeded in doing. In another the growth blocked the lumen of the gut, causing obstruction; an operation for the relief of the obstruction happened to cut off the supply, and give the orifice a chance of healing. In the third, some disturbance of the parts rendered easy and safe the completion of the formation of a faecal fistula already begun, so also giving vent to the foreign matter, and permitting cure to take place.

In conclusion I may be permitted to express my regret that the study of the cases is so incomplete from the pathological point of view. Nothing short of an elaborate post-mortem examination, with careful microscopic study, can provide a full and satisfactory explanation of the origin of such cases. In the meantime I may be justified in bringing them forward, in the absence of any such examination and study, first, because they are evidently extremely rare, and opportunities for observing them post mortem must be still more rare; secondly, because their clinical importance as being so like malignant growths is undeniable; and thirdly, because I am in hopes that the experience of the Fellows

of this Society will provide more material on which some sound and satisfactory generalised explanation may be built.

(For report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' Third Series, vol. vi, p. 44.)