

CONTRIBUTION TO THE STATISTICS OF FOREIGN BODIES IN THE PERITONEAL CAVITY.

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As Mr. Frederick Treves so well says in his *Lettsonian Lectures of 1894*: "Peritonitis is a conservative process. The inflammatory reaction which surrounds the infected wound is a wise provision of nature to check the invasion of micro-organisms. If peritonitis were to disappear the race would soon become extinct."

We are all familiar with the peculiarities of septic peritonitis; we have all seen the collapse resulting from the perforation of the stomach or intestine from ulcerative processes, or the rupture of intraperitoneal abscess; but we are not familiar with the sequence of results following the presence in the peritoneal cavity of a clean foreign body.

The leaving of a sponge in the abdomen has always been followed either by a rapid septic peritonitis or an intra-peritoneal abscess; at least no instance in which this has not occurred has fallen under my observation. If this is so, it only goes to prove that our methods of sponge sterilization are as yet imperfect.

I have assisted at two post-mortems in which a sponge was the evident cause of a most intense septic peritonitis; occasional instances of this accident are reported in the journals.

In an article read before the American Gynecological

Society of 1884 by Dr. H. P. C. Wilson, of Baltimore, there are ten cases reported in the paper and in the discussion which followed its reading, where the leaving of a sponge after coeliotomy had been followed by fatal peritonitis. Among these cases is one reported by Mr. Lawson Tait. In a personal letter to Mr. Wilson, Mr. Tait says: "I happened to have heard of ten other cases in which a sponge has been left behind." Dr. Wilson reports a case in which Dr. Carl Braun left a sponge in the abdominal cavity with a fatal result. Another case was reported by Dr. T. Gaillard Thomas, of New York, where death followed in a few days after leaving a sponge in the abdominal cavity. Dr. A. Reeves Jackson, of Chicago, reports two cases occurring in Chicago where fatal results followed this same accident. Dr. W. F. Howard, of Baltimore, describes a similar case occurring in the hands of an English operator. Dr. George J. Engelmann, of St. Louis, adds another case in the discussion of Dr. Wilson's paper, Dr. Parvin, of Philadelphia, being the first assistant, where a few days after the operation a post-mortem revealed a sponge between the stomach, the large intestine, and omentum, high up in the right side. In Dr. Henry L. Elsner's paper in the *American Gynecological and Obstetrical Journal*, March, 1895, the author quotes a personal letter from Dr. H. C. Coe, of New York, in which he says: "I have removed four sponges post-mortem from the cavity which had been left by eminent operators, who must, of course, be nameless." The successful removal of a sponge which lay in the centre of an intra-peritoneal abscess is reported by Dr. H. P. C. Wilson in the paper from which I have already quoted; the doctor operated for an ovarian tumor on a woman five months advanced in pregnancy; a piece of sponge was left in the abdominal cavity; she miscarried on the eighteenth day after operation; the sponge remained in the abdominal cavity for five months, when it made its way to the surface and was removed by Dr. George H. Hocking.

Dr. Wilson also reports in his paper several cases where foreign bodies, such as sponges and hæmostatic forceps, had been left in the abdominal cavity, but have been missed and were removed either in a few minutes or hours after the operation, and the patients recovered. The last case that Dr. John L. Atlee, of Philadelphia, ever operated upon died from lockjaw after the removal of a large ovarian tumor, and after death half a sponge was found in the abdominal cavity. Dr. Wilson also mentions a case of Dr. Howlitz, of Copenhagen, in which a sponge in the abdomen was found to be the cause of death after cœliotomy. In the *Centralblatt für Gynäkologie*, 1892, Salin reports a case in which the gauze pad remained in the peritoneal cavity a year after cœliotomy, finally causing suppuration and ultimate extrac-tion through the abdominal wall. Dr. Elsner reports a case of Dr. Coe's where Hegar's operation for fibroid had been made—a large gauze pad was left in the pelvis; the patient had a high temperature for three or four weeks, when the pad was felt under the wound and was removed. The patient was up a week later, and is now quite well. Dr. Gustav Braun, of Vienna, reports a case quoted by Dr. Wilson in which a post-mortem revealed a pair of bulldog forceps which had been left at the time of cœliotomy.

The ability of the peritoneum to encapsulate and take care of small clean foreign bodies is constantly observed after cœliotomy where silk ligatures have been used; if these are absolutely clean the peritoneum covers them over with lymph, and they give no further trouble.

But cases are constantly coming to our notice where silk, which probably was originally clean, and which at any rate gave no trouble for many months, later caused suppuration and either is discharged or has to be removed. Dohrn, in the *Centralblatt für Gynäkologie*, 1896, reports 300 lapa-rotomies for ovariectomies and myomectomies in which he followed Olshausen's suggestion and used elastic ligatures for the pedicles, holding the ligatures in place with a small

lead ring. At the time of this report he knew of no septic cases traceable to these ligatures. This method has never been followed to my knowledge in this country—at least no case of this kind has come under my observation. If small silk ligatures cause suppuration, I cannot see how these much larger and bulkier ligatures can help doing the same thing in a large percentage of cases so treated.

In Elsner's paper, already referred to, is given a detailed account of a hysterectomy performed by a prominent New York surgeon. This operation was performed on March 25, 1893. Nothing unusual occurred during the next four months following the operation, except the constant discharge from a fistula at the lower end of the abdominal wall. After experiencing many alarming symptoms this patient was at last relieved, six months after the operation, by the discharge from the rectum of a large gauze pad weighing one pound, after which she entirely recovered. An anonymous article in the *Revue des mal des Femmes*, 1892, No. 4, reports the discharge through the rectum of a piece of gauze one foot in length, the patient having given no symptoms until four months after the operation. In the second case the patient was operated upon for the removal of both diseased Fallopian tubes; following the operation she was far from well, and later had a vaginal hysterectomy. As this afforded no relief, an exploratory cœliotomy was made to find the cause of the persistent abdominal pain; at this time a piece of iodoform-gauze fifteen inches in length was found in a coil of small intestine; five inches of the intestine was resected, and the patient recovered.

Two other cases are mentioned in this same article where, following cœliotomy, a sponge, and in the other a pair of forceps was left in the abdomen; but fortunately they were soon missed, the abdominal cavity was opened in both cases, and the articles were safely removed.

A Paris letter to the *Medical Press and Circular* of last

year says: "Dr. Pillate presented to the 'Société de Chirurgie' a compress of gauze eight inches long which was passed from the rectum eight months after cœliotomy." M. Quénu describes a similar case in which the patient died in four days. M. Terrier, at this same meeting, in a discussion, said that "one of his associates had recently recovered a pair of forceps left in the cavity during an abdominal operation."

A friend of mine some two years ago performed a cœliotomy in which considerable blood was lost; this was followed by an immediate and profound shock, the patient dying in a few hours. At the post-mortem examination a pair of artery forceps was found in the pelvis, much to the surprise of all concerned. I do not think that their presence had anything to do with the sudden death of the patient.

CASE I.—On December 24, 1893, I operated upon Mrs. C. E. L., at St. Luke's Hospital in this city. I was assisted by her physician, Dr. McLain, of Hillsboro, North Dakota, and Dr. R. A. Wheaton, of St. Paul. The patient was thirty-one years of age, had borne three children (the last one was six years old); she had suffered from peritonitis and milk-leg after the first child was born; she was a constant sufferer from pelvic pain from the adhesions about the appendages and a retroverted uterus. I made a cœliotomy and removed the right appendage, as the ovary contained a cyst as large as a hen's egg; the adhesions were separated, and the fundus was sutured to the anterior abdominal wall by buried silkworm-gut sutures.

This patient was obstinately constipated after the operation; her temperature reaching 101° several times during the next ten days. On the tenth day the obstipation was relieved and the patient passed a large fecal movement streaked with blood, containing a small piece of sponging gauze about six inches square. As no gauze had been introduced into the rectum during or preceding the operation,

it must have been accidentally left in the peritoneal cavity during the operation.

On April 10, 1895, I again opened the abdomen of this patient to determine the cause of the constant pelvic pain. I found a very dense adhesion one inch in length between the back of the uterus and the ileum, not far from the ileo-cæcal junction. This adhesion was separated without opening the intestine; as the remaining ovary was found to contain a large cyst, it was removed. Since this last operation she has entirely recovered.

CASE II.—On August 26, 1893, Mrs. S., of this city, was operated upon at St. Joseph's Hospital. I was assisted by Drs. Robert Wheaton and John Rogers, of St. Paul. Baer's supra-vaginal amputation was performed for the removal of a multinodular fibroid uterus. The patient promptly recovered, and left the hospital in less than four weeks; but she was never quite well. She suffered some irritation of the bladder and has frequently had a temperature of 100° F. A number of bimanual palpations of the pelvis failed to relieve the cause of her suffering until early in September, 1895, when a hard mass was found high up in the right loin, lying immediately over the right kidney. On September 24, 1895, two years after the first operation, I performed a second coeliotomy on Mrs. S. at St. Joseph's Hospital, assisted by Dr. Danner, of this city. After opening the peritoneal cavity I first reached the appendix, which felt as though it contained a stick. Passing the fingers a little higher I could easily map out the foreign body and feel the scissors handle of a pair of artery forceps which lay entirely within the intestinal canal. The head of the forceps lay in the canal of the cæcum; the middle of the shank for one-half inch above and below the lock lay within a coil of the ileum, while the point (as we may see by referring to the accompanying plate) lay entirely in the distal end of the appendix, and over the entire inflammatory mass lay the closely adherent omentum. The cæcum was opened and

the forceps removed, the adherent coils of intestines were separated, and the intestinal openings were sutured with fine catgut; the appendix was amputated, as shown in the diagram; the patient made an uninterrupted recovery, and is now perfectly well.

Studying these few cases for a moment we notice that in the early days of abdominal surgery, and in the pre-antiseptic days, the leaving of foreign bodies, especially sponges, was universally followed by a fatal septic peritonitis. This occurred in all but one of these cases, *i. e.*, that of Dr. Wilson. In this, as in Salin's case, the foreign body was probably almost clean, and by a less virulent infection produced a localized peritonitis rather than a general attack.

But when we come to look at the more recent cases, where steam-sterilized gauze and boiled instruments have been used, we discover apparently a new property of the peritoneum. Here are seven cases in which the peritoneum, reinforced by the omentum, has been able to expel clean foreign bodies into the intestinal cavity, striving in this way to rid herself of these undesirable occupants. Out of these seven cases there is only one death; two other of these cases would undoubtedly have died if surgical assistance had not been afforded.

No one will question that just such unfortunate results have probably often followed abdominal section, many never suspected and others never reported. Perhaps I would not have had the courage to have reported my own if the patients had not both finally recovered.

