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PART I.

ORIGINAL COMMUNICATIONS.

ART. V.—*One Hundred Cases of Abdominal Section.* Second Series.* By ALFRED SMITH, F.R.C.S.I.; Gynæcologist to St. Vincent's Hospital, Dublin.

I HAVE pleasure in presenting before you a report of work done by me in gynæcological abdominal surgery since May, 1896. I published in that year a report of my first 50 abdominal sections, and I now bring under your notice a report of 100 cases as follows:—

The 100 abdominal sections were performed as follows:—Thirty-nine times for ovarian tumours (28 cystic, 9 solid, and 2 dermoid); 4 times for the separation of adhesions; 9 times for exploratory purposes; 21 times for the cure of fibro-miomata; once to enucleate a broad ligament fibromyoma; 4 times for tubal pregnancies; 4 times for the radical cure of ventral hernia, following the operations of my friends; 4 times for double pyosalpinx; once for appendicitis; once for double hæmatosalpinx; once for enucleation of mesenteric cyst; once for Porro's operation; twice for salpingo-ovaritis; twice for hydrosalpinx; once for the enucleation of a broad ligament cyst. I also opened the peritoneal cavity twice in performing anterior colpotomy, and three

* Read before the Section of Obstetrics of the Royal Academy of Medicine in Ireland, on Friday, November 25, 1898.

times in performing posterior colpotomy—making in all 100 cases with two deaths.

Fibro-myomata.—As to the treatment of fibro-myomata I am not in a position to dogmatise, but I felt it my duty not to accept the simple fact of the presence of a tumour as a sufficient indication for operation. I must be satisfied that its continued presence is in some way or other a menace to life, or that its presence is incompatible with a comfortable existence. Each case was weighed on its merits, and I practised on each that particular method of operation which seemed to me to meet the requirements of the particular case. Consequently you will observe that I did not treat all cases alike. I performed enucleation twice, myomectomy six times, panhysterectomy twice, retro-peritoneal hysterectomy eight times, and double oöphorectomy three times—making in all 21 operations without a death.

Double Oöphorectomy.—Double oöphorectomy was at one time a fashionable treatment for fibro-myomata, and had many strong advocates. I never quite liked the operation; still I must confess that my own experience is favourable. I do not consider it an operation of election, but one of expediency. You can always proceed to the major operation later on should the case require it.

Myomectomy and Enucleation.—Myomectomy and enucleation are, in my opinion, the ideal conservative operations for fibro-myomata, but unfortunately the percentage of cases in which you can employ either operation is low indeed. The essence of either operation is the removal of the tumours with the preservation of the uterus, or at least as much of it as will allow of the proper performance of its physiological functions. The following case has a direct bearing on this subject:—

No. 95.—M. N., aged thirty-eight, married one and a half years, was sent up to me by Dr. J. Dowling, Tipperary, in Oct., 1897. She suffered from a very large fibro-myoma (a diagram of which is here shown). A large broad pedicle connected the tumour with the uterus, and it seemed to be an extension from the left cornua of the uterus. I felt, although she suffered from no urgent symptoms, that if the patient became pregnant there would be no place for a viable child plus the tumour. I accordingly performed myomec-

tomy. The left cornua of the uterus was cut well into by a wedge-shaped incision. This was brought together by interrupted silk sutures. The recovery was uninterrupted. On May 28th of this year I heard the patient had been again increasing in size, and it was feared there was a return of the tumour. However, on

Fig. 1.

questioning her, she told me she had not seen her changes since Dec. 14th. On palpation a pregnant uterus up to the umbilicus was made out, and the foetal heart heard. The patient returned home, went on to full term, and gave birth to a strong, healthy male child. I have letters confirming this information from Dr. Russell, Raheen, Bansha, who attended her, and Dr. C. Ryan, Tipperary.

Retro-peritoneal Hysterectomy.—The operation of retro-peritoneal hysterectomy was performed eight times. In all cases the tumours were very large. I showed them from time to time at this Section of the Academy. All were operated on in the Trendelenburg position. The technique employed by me was based on the principle of primary ligation of the main arterial trunks supplying the uterus and the appendages, thus reducing to a minimum the loss of blood. Before an incision is made, after exposing the tumour, the bladder is distended with creolin solution, to map out its boundaries. This I consider essential from the frequency with which I found the bladder drawn up by the tumour. Having satisfied myself as to the position of the bladder, I

make an incision across the front of the anterior wall of the uterus, well above the utero-vesical fold, taking care not to go too deeply. I then with my fingers push off the bladder from the uterus. Traction is being made all the while by my assistant on the tumour, until I come to the junction of the portia-media and supra-vaginal portion of the cervix. I then feel for the uterine artery, and, having located its position, I clear it, pass a long aneurysm needle under it, and ligate it with stout silk. The same procedure is followed on the opposite side. Having ligated both uterine arteries, I feel for and ligate both ovarian arteries close to the brim. All this time the broad ligaments are intact. A flap of peritoneum is fashioned off the posterior wall of the uterus by incising a track from one broad ligament to another. The peritoneum is then peeled back and preserved; with scissors I snip down the broad ligaments on either side, leaving the tumour and uterus supported by the stripped cervix, which is then amputated by a modified wedge incision. The spilling of venous blood from the tumour is controlled by clamp forceps, thus preventing fouling of the parts and the blurring of your vision.

Treatment of Pedicle.—The upper portion of the mucous membrane in the cervical canal is dissected out, and the hole is swabbed with corrosive sublimate solution 1 in 1,000. I do not suture or bring together the surface of the stump, but the entire surface is completely covered over by accurate suturing of the large anterior and posterior flaps, leaving the pedicle completely retro-peritoneal. Interrupted silk sutures also bring together the layers of each broad ligament.

Panhysterectomy I performed twice. The technique is precisely that employed in retro-peritoneal hysterectomy up to the amputation of the cervix. Instead of amputation the vagina is opened into from above by cutting down on an instrument placed in the vagina to distend it. Having entered the vagina, the cervix is freed by clipping it with a scissors under the guidance of the finger. The anterior and posterior flaps of peritoneum are united just as accurately as in retro-peritoneal hysterectomy.

The following case will, I think, be of interest as showing how nature sometimes effects a cure :—

CASE No. 102.—Drs. Beamish and Smartt, of Newry, sent me the patient in November, 1897. She had noticed a lump in her abdomen for the past eight years, and she stated it got much larger within the past two years. It extended above the umbilicus, and filled out the flanks; it was very mobile. The sound could be passed only 2 cm., and the tumour palpated quite separate from the uterus. Assisted by Dr. Tobin and Mr. Philip Murphy I opened the abdomen; the tumour was easily drawn out, and it was much twisted around its pedicle from left to right—in fact, so completely as to have amputated the cervix uteri through the portia-media; a thin, translucent layer of membrane alone held cervix and the remainder of the uterus together. This membrane was easily cut

Fig. 2.

through; it contained no blood vessels. The pedicle left consisted of vaginal portion and a small part of the portia-media, and it was completely sealed over by fibrous tissue. The tumour consisted of the remainder of the uterus and a large fibro-myoma growing from the

fundus, with the tubes and ovaries hanging quite free on either side. This is the most perfect example of amputation by rotation I ever saw, and it is remarkable that there were no adhesions with surrounding structures. Some members may remember this unique specimen having been shown at this Section of the Academy. Fig. No. 2 represents the tumour twisted, and No. 3 untwisted.

Fig. 3.

Ventral Hernia.—In operating on small ventral hernia following operations I adopted a displacement method. The sac is isolated and incised; after exposing the contents, which are reduced, the sac is then loosened freely from its surrounding attachments. A second incision is made through the skin, superficial fascia and fat down to the muscular layer, about $1\frac{1}{2}$ inches from the edge of the wound. A forceps is pushed obliquely through the muscular wall, up to the peritoneum at the edge of the incision; the free ends of the sac are seized and drawn through. Interrupted silk

sutures are passed through the skin, fat, muscular and aponeurotic layers.

With large hernia I find it necessary to excise the sac, freshen the edges freely, and suture with interrupted silk sutures. I hope in the near future to adopt a modification of the flap and displacement method for extensive cases of ventral hernia, the results of which I hope to place before you.

Ovarian Tumours.—Of the 39 ovarian tumours, 28 were cystic, 9 solid, and 2 dermoid; 13 were complicated and 16 simple. Some of the complicated cases gave considerable trouble in the separation of adherent intestine, and in the arrest of surface hæmorrhages. On many occasions I found it necessary to split the wall of the cyst, so as to free the intestine, and while splitting the cyst wall I was careful not to leave any of the cyst epithelium. All cases recovered.

The following case is an interesting one, as showing the secondary troubles of abdominal surgery:—

CASE 121.—N. H., aged twenty-five, the mother of two children, the younger five months old, was admitted to St. Vincent's Hospital suffering from enormous distension of abdomen, which began to form after her last confinement. On May 4th of this year I opened abdomen, assisted by Mr. E. White. There was a great quantity of free ascites. I removed a solid ovarian tumour, size of fifth month pregnant uterus. The peritoneum was covered all over with organised lymph. About thirty hours after operation pulse ran up to 126, temperature 103·6°, and I was hurriedly sent for, as the patient had taken a change for the worse. I found abdomen much distended; percussion was resonant in the flanks, dull in the centre. Four grains of calomel, followed by mist. rosæ, and two turpentine enemata failed to move the bowels. I reopened abdomen; there was ascitic fluid partially encysted in the centre. The small intestines were not distended, but the cæcum was twisted on itself, distended like an inflated penny balloon; it was quite dark in colour, without lustre, and seemed on the point of bursting. A constricting band of organised lymph had bound it quite tightly. This I cut through between double ligatures. I was afraid to restore the cæcum. I brought it out through the abdominal wound, passed a bone pen-handle, previously sterilised by boiling, through the mesentery to act as a support, and stitched the cæcum to the abdominal wall. I opened it and irrigated

bowel with saline solution. For several days the bowels moved regularly through the artificial anus, but if purgative medicine was given a considerable quantity passed per anum. The patient rapidly regained strength; she left hospital at the end of June; she returned early in last October. She had gained greatly in appearance—had put on flesh—in fact, one could hardly recognise her. The cæcum had retracted almost entirely, leaving only a very small fistula; the bowels, as a rule, move per anum, but occasionally, while lying in bed, fæces pass through the fistula-anus. I thought it safer to let sleeping dogs lie, so I sent her again to the country for a few more months in the hope that the fistula will close by natural efforts.

Tubal Pregnancy.—I had three cases of ruptured tubal pregnancy, and one case (No. 109) where I removed the distended tube before it ruptured. I have given full details of these cases

Fig. 4.

elsewhere; I merely content myself with showing a photograph of specimen removed from Case 55—a splendid example of ruptured tube with fœtus. All cases did well.

Colpotomy.—Both anterior and posterior colpotomy was performed five times—once to enucleate a small fibro-myoma, once to perform double salpingo-oöphorectomy, and three times to separate adhesions in a backward displaced uterus.

As an alternative route to the abdominal cavity it has its position in gynæcology, and certainly one cannot but be struck with the absence of shock and rapid convalescence. Nevertheless, the number of occasions in which I could perform the operation were few, and in one case I had considerable trouble in arresting hæmorrhage, having to ligature both uterine arteries before controlling it properly.

Double Pyosalpinx.—Four cases were treated; in all the cases very extensive adhesions had to be dealt with. No. 62 burst during removal, but the peritoneum was well douched out; there was no bad result. Nos. 71, 124, and 130 I was fortunate to be able to get away without rupturing.

Appendicitis.—The vermiform appendix played an important part in Cases 63, 84, and 139. The following case is of greatest interest:—

No. 63 came to St. Ann's Ward at the end of Jan., 1897, and gave a history that she was confined on the floor before the arrival of either nurse or doctor. On the second day after confinement she got a rigor, and suffered great pain in the lower part of abdomen. She was treated with hot stupes and douching. I saw her five

Fig. 5.

months after confinement, and palpation revealed a mass as in diagram. The bimanual under ether gave the impression of an ovarian abscess. Abdominal section revealed the tube and ovary

normal, but adherent to the ovary was the vermiform appendix, which was perforated, and was surrounded by a quantity of pus. I excised the appendix and left tube and ovary. On thinking over this case subsequently I never remember a case of either ovarian abscess or pyosalpinx which seemed to float so high in the pelvis. This case is interesting, from the history, as a cause of rise of temperature following a confinement, from the facts that both tube and ovary were normal and that the position of the tumour of the appendix was not classical.

Fatal Cases.—I regret very much to have to report two fatal cases, but it is a matter for congratulation that the sad endings can in no way be attributable to negligence, or to a break-down in our aseptic system. I read the cases for you, you can judge for yourselves:—

FIRST CASE (No. 115).—A married woman, aged thirty-nine, no family, complained of a swelling in her abdomen for six years, but that latterly it grew very rapidly. She had seen no change for six months. The abdomen was greatly distended; the tumour pressed so much on the diaphragm as to cause dyspnoea; the patient had to be propped up in bed. The only treatment was to perform a Porro. The abdominal cavity was opened from ensiform cartilage to pubes, the tumour and uterus were turned out, and the entire mass was removed as in retro-peritoneal hysterectomy. Patient was progressing favourably, the bowels acted by enema—a good motion on the second day—pulse 80, temp. 99.2° at night. On the evening of the fourth day she complained of pain referred to left hypochondriac region. She said she felt distended and inclined to vomit. I unfortunately temporised, as the lower part of the abdomen was quite flat, pulse 100, aspect good. However, next morning the patient was very ill; regurgitative vomiting had set in. I reopened the abdomen, found a loop of the ileum distended, and a slough the size of a half-crown formed in its most distended portion. I drew out the loop, and formed an artificial anus. The patient sank and died the sixth day after operation.

SECOND CASE (No. 134).—This case was an operation undertaken to remove a hydrosalpinx. There were extensive adhesions, and there was considerable difficulty in separating the intestines. Patient seemed to be doing well, but the bowels would not move in response to ordinary remedies, and several enemata were given without benefit. Pulse 100, temp. 103° , tongue moist, aspect good, no nausea or vomiting, abdomen distended. Influenced by last case

I reopened abdomen, assisted by Mr. M'Ardle. The ileum was greatly distended, quite pale in colour, no fluid in posterior *cul-de-sac* or flanks, or any trace of peritonitis. The loop of intestine that was separated from the tube was most carefully examined, fearing there might be some damage there; none was found. The entire loops were drawn out of abdomen on to a warm saline towel, and carefully examined, without result. The intestine seemed to have lost all power; there was not the slightest attempt at peristaltic movement. Patient died on the sixth day after operation. It is of interest to note the patient never suffered from either nausea or vomiting; she took nourishment quite freely, and her aspect was always good. I put the cause of death down to ileus paralyticus for want of a better term.

In the case of death following the Porro operation, I could not for a long time explain the local sloughing of the intestine. I thought I must have squashed a knuckle of intestine against the tumour, or that I had inadvertently caught it in a ligature. But Professor Kocher, of Berne, in a recent number of the *British Medical Journal*, in describing local necrosis of the intestine, says:—"In the majority of my *post-mortem* examinations I found very important lesions in the wall of the intestine above the seat of obstruction. They consist in the formation of circumscribed necrosis of the mucous membrane going on to sharply circumscribed ulcerations through the whole thickness of the wall, and giving rise eventually to perforation. The cause of these ulcerations is not, as has been stated, due to the pressure of hard faecal masses pressing for some time on the same spot. You may find the same ulceration in the ileum and jejunum to a very great extent where the bowel is filled with liquid contents. The cause is the same as that which acts in cases of incarcerated hernia (as I have shown long ago) above the seat of incarceration, and the same you can produce artificially by over-distension of a part of the bowel by injection of gas or fluid. You will see that without the slightest interference with the mesenteric circulation the bowel gets quite blue by venous stasis. As a consequence of this ecchymoses may form in the mucous membrane, the nutrition is altered, and the protective influence of the epithelium, which has been proved to be of such importance, is destroyed, and the

mischief is done. Absorption of bacteria and of the toxic products of faecal contents begin from that very moment, and if you do not step in in time, your patient will die either from general intoxication, with symptoms of weakness of the heart and collapse, or he will die from local intoxication with necrosis of the mucous membrane (first at the places of the above-mentioned ecchymosis), going on to ulceration and perforation."

Secondary Operations.—Apart from the secondary operations detailed above, I reopened the abdomen in Case 80 for secondary hæmorrhage due to slipping of pedicle suture, and in Case 103, for exceptional circumstances. The operation was a retro-peritoneal hysterectomy, which was completed without a hitch. On the evening of the operation diarrhœa set in; as many as twelve fluid motions were passed inside of a few hours without pain or distress. Next morning patient began to vomit and yawn, toss her arms about restlessly; pulse 120, temperature 98°. On examination the abdomen was distended and quite tympanitic. Mr. Tobin and Mr. M'Ardle saw the case in consultation, and we deemed it advisable to reopen, the symptoms pointing to secondary hæmorrhage. On opening the abdomen nothing was found abnormal; there was no blood or trace of peritonitis. The abdomen was reclosed, and the patient made an uninterrupted recovery.

Erythema.—A peculiar erythematous rash, very much like measles, was observed in Cases 61, 132, and 148. The patients complained of a hot, prickling sensation under the skin; there was no rise of temperature or constitutional symptoms present. The rash was best marked on the wrists, buttocks, and chest in Case 61. Bullæ and large vesicles formed over the chest, and there was a general desquamation. The rash appeared about the fifth day, and disappeared about the tenth day.

Flushing the Peritoneum.—The peritoneum was flushed four times in Cases 55 and 62 for soiling of the peritoneum with suspicious cyst contents, in Cases 80 and 100 to restore collapsed patients: in 80 for bad secondary hæmorrhage, and in 100 after a difficult retro-peritoneal hysterectomy.

Drainage.—I did not consider it necessary to use a drain in any of the 100 cases.

General Preparation of Patient.—All cases except emergency ones are kept under observation some days before operation to investigate the condition of heart and kidneys, and to regulate the bowels. If they are anæmic and much run down, I administer iron and arsenic, and feed them up well. This course I consider essential, as the phagocytes are better able to resist infection and the convalescence is quicker.

Particular Preparation of Patient.—The entire body of the patient was cleansed by a bath or otherwise, as seemed most suitable. The skin of the region to be operated on was thoroughly scrubbed with monkey-brand soap and very hot water, shaved when necessary, then washed down with corrosive sublimate solution, and covered with a corrosive sublimate poultice. Immediately before operating the abdomen was washed with ether and then sponged with hot corrosive sublimate solution. Dry sterilised towels are spread over the chest and thighs of the patient as a further protection against the danger of infection.

Sterilising Hands.—The stages for sterilising the hands are as follows:—(1) Pare and cleanse nails with scissors. (2) Soften hands with a lather of soap, then scrub thoroughly with soap and hot water, paying special attention to folds of skin and nails and using aseptic nail-brush. (3) Immerse hands for two minutes in corrosive sublimate solution, 1 in 500, made tepid, and leave them wet. (4) Keep hands moist with the same solution during operation.

If I had been operating on a septic case, I follow the method of sterilisation of my hands which I learned as a student in Professor Billroth's clinic, Vienna—viz., after a thorough washing and scrubbing with soap and hot water, the hands are immersed in a hot saturated solution of permanganate of potassium, until stained a deep mahogany colour, after which they are immersed at once in a saturated solution of oxalic acid, as hot as can be borne. This decolourises and completely sterilises them. I also use sterilised gauze gloves while operating after attending on a septic case.

Sterilisation.—The sister in charge of the ward, assisted

by my staff-nurse, superintends every detail of sterilisation. Sterilisation of instruments likely to be required for operation is carried out by boiling them for five minutes immediately before the operation in a solution of 1 per cent. of carbonate of sodium in Schimmelbusche's apparatus. Silk is sterilised by boiling for half an hour in a 1 per cent. solution of carbonate of sodium; it is then placed on glass spools and kept in a bath of corrosive sublimate solution, 1 in 1,000, until required for use. Gauze sponges are used instead of sea-sponges; they are made up of eight layers of butter muslin stitched together at the margin (the usual size, 4 × 4 inches); all sponges, gauze dressings, towels, &c., are sterilised by being placed in Lantenschlager's steam steriliser for one hour at boiling point.

Suture of Abdominal Walls.—The abdominal walls are sutured by interrupted sutures, using fine silk No. 4, or silk-worm-gut, taking in the entire thickness of the wall. I use strong curved needles, and feel with my fingers that the aponeurosis is included; all sutures are removed on the eighth day. Stitch abscesses I never see since I employed more perfect methods of sterilisation. In tying the sutures I have been interesting myself as to the exact degree of tension to be employed, as I often thought I tied the sutures too tightly. I accordingly experimented somewhat, and tied loosely with the following result:—

CASE NO. 138.—An easy, solid ovarian; I tied the sutures just tight enough to approximate the edges of the wound without any strangulation of the tissues. On taking off the dressing on the eighth day to remove the stitches, I found two large protrusions of omentum between the first and second and second and third sutures (specimens here shown). The omentum had been a week outside the abdominal cavity, and had grown into the pad. Having examined carefully to exclude any knuckle of intestine, I transixed them with silk and removed them, returning the stumps. I then refreshed the edges and resutured the openings. It will be interesting to note if there will be any hernia in the near future.

The Dressing.—The dressing employed is very simple. It consists of a sterilised pad of absorbent cotton, folded in a few layers of ordinary butter muslin, held in position by strips of rubber plaster, and over all a flannel binder.

After-treatment of Abdominal Section.—The usual practice is for patients to receive nothing but sips of hot water for the first forty-eight hours, then milk and weak tea. This practice is not followed slavishly, as frequent variations have to be made, the patients in some cases getting stimulants and Valentine's extract of beef as soon as they can take it.

Pain.—I employ codeina tabloids or phenacetin. Two tabloids of codeina, to be followed every second hour by one tabloid, frequently give much relief. Phenacetin is given in 10 gr. doses. I do not absolutely deprive patients of the soothing influence of morphin. I believe intestinal adhesions, if they are going to take place, form inside a few hours; consequently, if a patient suffers much pain—say 12 hours after operation—I give $\frac{1}{4}$ gr. morphin hypodermically.

Fig. 6.—Gynæcological Theatre, St. Vincent's Hospital. Installation for Abdominal Section.

Flatulence.—If not relieved by a turpentine enema or carminatives, I found it quickly benefited by touching the abdominal walls lightly with a Paquelin's cautery, especially where there is meteorismus.

Vomiting.—If the ordinary routine methods failed the stomach was washed out, and three cases of persistent ether vomiting were at once stopped by the patient drinking a copious draught of cold water.

Purgatives.—Purgatives are given the second morning

after the operation; a saline mixture, such as *mist. rosæ* or *mist. sennæ co.*, is preferred. Sometimes calomel (3 grs.), to be followed by a Seidlitz powder, is selected. When the bowels did not act I ordered a turpentine enema.

Abdominal Belts.—I have given up for years the use of abdominal belts after abdominal sections; herniæ are best prevented by proper suturing. An abdominal belt, to be of any use, must increase intra-abdominal pressure—an infallible way to find the weakest spot.

I have now, gentlemen, placed before you my work in abdominal surgery since May, 1896. Taking my first series of 50 cases and the present one of 100, I have performed 150 abdominal sections with only 2 deaths, or a mortality of 1·3 per cent. nearly.

ART. VI.—*Cerebro-spinal Fever in India.* By W. J. BUCHANAN, B.A., M.B., &c. (Dubl.); Diplomat in State Medicine; Captain, Indian Medical Service; Superintendent, Central Jail, Bhagalpur, Bengal.

THE very severe and fatal form of fever known as cerebro-spinal is, as far as I am aware, of rare occurrence now-a-days in Ireland, but it will be remembered by older medical men as having prevailed in a widespread manner in Dublin, and the neighbourhood, in 1866-67. My own interest in the disease (apart from having learned of it from teachers who went through the Dublin epidemic) dates from 1888, when, as Dublin University travelling prizeman, I was studying in Vienna, where I saw some cases of the same epidemic in which Weichselbaum in 1887 described the *Diplococcus intracellularis*.

So having recently had experience of this disease in three central jails in Bengal, I have thought it may be of interest to the readers of the *Dublin Journal of Medical Science* to give a brief account of this fever as met with in India.

As I have shown, in an article read at the recent meeting of the British Medical Association in Edinburgh, the disease has been known and recognised in India for many years past, but the fact of its existence in tropical countries seems