

With the experience I have hitherto had, which I consider is of a most encouraging kind, and with the expectation that in the near future, in the very nature of things, our materials and our methods will improve, I cannot join in the thoughtless or prejudiced outcry which has been raised against Dr. Koch's method of treating tuberculosis—a method which may ultimately prove to be one of the greatest benefits conferred by a scientist on mankind.

ART. XIV.—*On Extraction of Parietal Intra-Uterine Fibro-myomata through the Natural Passages by means of Professor Vulliet's method of Dilatation by Tampons.* By DR. EMILE JUILLIARD. Translated by CHARLES G. CUMSTON, First Assistant at Docent Kummer's Clinic, Geneva. Part III.

(Continued from p. 116).

*Third series : Cases of resection followed by neither enucleation nor forced enucleation :—*

CASE IX. (Vulliet, *loc. cit.*, page 9). In August, 1884, I operated at the Maternity on a fourth case. Mrs. G., aged fifty-three, complained for ten years of abundant loss of blood every two weeks. Has always had anæmia, is feeble, and the gravity of her condition justified energetic intervention. I examined by intra-uterine touch and discovered an interstitial fibroma situated in the posterior wall; the maximum of development was a little to the right of the median line. I made an incision the entire length of the uterine wall about a centimetre deep; no complication. The patient remained in bed two weeks and then left for the country. Two weeks later she returned to the Maternity. I did not see her, and it was Dr. Fontanel, the Assistant of the *service*, that received her. I heard from him that no hæmorrhage appeared, and that the patient felt and appeared better. Since then she has not come to the Maternity, feeling probably too well to come for her own interest. In Feb., 1887, we looked her up. Mrs. G. was perfectly well; she attends to her occupations as schoolmistress. Her uterus is double the normal size. I believe that there exists another fibrous tumour which keeps it thus enlarged; but this tumour is probably sub-serous, and gives rise to no symptoms.

CASE X.—Mrs. M. D., aged forty-six; three confinements, one abortion, which kept her in bed six months; she cannot tell what the complication was; no heredity in the family; domestic troubles. Menstruation regular until 1883. Since this date, discharge more frequent and very abundant, every two or three weeks lasting eight to ten days. Subjective

symptoms: feeling of weight and discomfort in abdomen and kidneys; pains sometimes sharp. In 1884 the discharges of blood became more abundant; to the metrorrhagia are added white and yellow discharges; micturition frequent; enlargement of abdomen. She underwent different treatments, principally cauterisation of the cervix. Prof. Vulliet was consulted on Aug. 24, 1886. General condition: Uterine facies, thin, projecting abdomen, digestive trouble, anæmia. Local condition: Abdominal tumour situated in the middle, as large as a six months' and a half uterus, hard and resisting; enormous cervix, its entire left lateral segment is considerable. The external orifice assumes a semicircular shape, and is pushed to the left, on account of the projecting tumour; it admits two fingers, which penetrate easily to a distance of 2 or 3 centimetres. All movements given to the cervix are reproduced by the tumour. The cavity measures 18 centimetres. By the introduction of large sounds, drawing the organ down and bi-manual exploration, the tumour is found to be interstitial, situated in the right lateral wall. Vulliet was struck by one peculiarity; this was the softness of the tumour. He commenced at once the dilatation of the cavity with iodoform tampons. After three or four *séances*, 10 centimetres into the cavity could be seen by means of an intra-uterine speculum. Intra-uterine touch gave the exact relation of the new growth to the walls. It was a large tumour, entirely abdominal. The uterus had kept its shape, notwithstanding that the right horn was evidently more developed than the left. As high up as could be felt, the left wall was thinned. There was no projection into the cavity. Vulliet made a longitudinal incision, in order to loosen the internal layer, at three different times, allowing a repose of two weeks between each *séance*. At the same time, he ordered faradisation and ergotin, so as to push the neoplasm to the side weakened by the incision. The last incision was made about the middle of October. A watery running was produced. Some weeks after, the fibroma had gradually diminished. The difference in volume was more marked in the bilateral and antero-posterior diameters. The discharges stopped, the patient became gay, strong, and active. The abdomen had its normal dimensions. The incisions had not been followed by spontaneous enucleation, but they had caused, with the aid of electricity, an absorption and a remarkable hæmostatic effect. This continued for three months, when suddenly, about the beginning of January, without any known cause, during the absence of Prof. Vulliet, the patient was taken by a series of *malaises*. The abdomen became large and painful on pressure; no vomiting, cephalalgia, or fever. Upon his return, Vulliet found the symptoms very different from those in August; the abdomen had become greatly swollen. The tumour reached above the umbilicus. By abdominal palpation fluctuation was felt in certain parts of the neoplasm. Little by little the inflammatory symptoms sub-

sided, but the tumefaction remained. The diagnosis was undecided. Was it an œdema of the fibroma and the formation of a cyst? Finding a spot where the fluctuation appeared pronounced, an exploratory puncture was made: this gave no result. But the fluctuation becoming more evident and more extensive, a second puncture was made fifteen days later; it gave issue to four litres of non-sticky, grayish-yellow pus. Following this second puncture the patient had a few days of relief and repose, but the liquid soon reappeared. Towards the end of February the fluctuation was again evident in the entire tumour, and signs of absorption showed themselves in a slight pneumonia, probably septic. In presence of these alarming symptoms the urgency of an intervention was felt. But what intervention? Laparotomy with total hysterectomy could not be thought of, for, on one hand, the patient was very feeble, and could not stand the shock; on the other hand, the tumour was too large, too diffused, and its adhesions were probably too numerous for one to count on a radical operation with any chance of success. Prof. Vulliet decided to make an exploratory incision, and, on account of the circumstances, to fix the walls of the cyst to the lips of the abdominal wound; to empty and scrape the cavities after having destroyed the partitions dividing them, and so try to procure a fixation of the fluid tumour by a consecutive drainage. The patient was etherised on Feb. 28, 1887. Having made an incision through all the abdominal tissues, 10 centimetres in length, Vulliet reached the uterus, fastened it by sutures to the lips of the abdominal wound; then an incision was made in the uterine wall, from which 12 litres of nasty pus was withdrawn. The cavity was washed with a solution of corrosive sublimate ( $\frac{1}{1000}$ ), and a drainage-tube, of one and a half centimetres in diameter and 15 centimetres in length, was introduced. Every day the cavity was washed with an antiseptic solution. As the cavity diminished in size a smaller and shorter drainage-tube was inserted and the larger one removed. The patient got well with astonishing rapidity. After the month of May she resumed her occupation. At this time she experienced no discomfort, and all physiological functions were normal. The abdominal portion of the tumour is only noticed in the part where it is fixed to the wall; the cervical portion is considerably atrophied. Mrs. D. may be considered as cured; she is forty-seven; the menopause will soon render a new growth of fibromata improbable. The history may thus be summed up:—1st. A fibroma, probably œdematous from the commencement. 2nd. (Edema is reduced under the influence of the incisions, ergotin, and electricity. 3rd. Reappearance of œdema when the incisions were cicatrised. 4th. Formation of a cyst in the tumour. 5th. Puncture leading to suppuration of the cyst.

I have quoted this case, even though the intervention did not

cause expulsion of the tumour by the natural passages. I think it proves that œdema and cystic degenerescence tend to produce conditions in which one cannot count on spontaneous expulsive efforts, which are absolutely necessary after incision. But, I believe that, even in a similar case, Vulliet's operation by the natural passages and by the interior of the dilated cavity, may prove of great service. This patient was relieved of a tumour to the same extent as if a sub-vaginal amputation of the uterus with fixation of the stump in the wound had been performed. It matters little whether the uterus be fixed by the edges of an incision made into the wall, or by the surface of amputation, if the remaining uterine mass cause, neither trouble nor pain and its volume is insignificant; besides, the dangers were not as considerable as if laparo-hysterectomy had been performed. It may be advanced that we produced infection by the incisions and by punctures. In reply I would say, that the uterus was already the seat of an ichorrhœa and that the infection could have been produced as well by the traumatism of laparotomy as by the operations we performed.

*Fourth series : Where there was only dilatation without incision :—*

CASE XI.—Mrs. L. R., aged forty-six, married; three normal deliveries, one abortion; menstruation regular until 1885, when the discharges became so abundant that there was an interval of only two or three days between them; dysmenorrhœa intense; hæmorrhagia commenced ordinarily by vomiting.

February 17, 1887.—Professor Vulliet was called into consultation by Dr. R. Mrs. R. was in a very grave condition. During the day she had had an attack of uræmia, as well as the vomiting characteristic of intestinal obstruction; much albumen in the urine. Upon examination Vulliet confirmed Dr. R.'s diagnosis. These troubles were due to compression by a tumour completely obstructing the pelvis, pressing the rectum and bladder against the bones. The fingers could not be introduced behind the symphysis to find the cervix, which was pushed high upwards. Tympanites did not permit of abdominal palpation, so that, in short, it was a case where an exploration could not be obtained, and which demanded an urgent intervention. The uselessness of the efforts at reduction led to the conclusion that the mass was fixed by adhesions. Nevertheless, it was decided to try vaginal and rectal irrigations and cold applications to the abdomen. When the patient was better she entered Professor Vulliet's private clinic. The tumefaction had not diminished much, and to save the life of the patient an operation was necessary, which presented itself under very bad conditions. The

patient was etherised, Vulliet not wishing to operate without trying reduction. He was about to give up when it seemed to him as if the tumour was slightly displaced. He commenced again, and suddenly the fundus uteri swung above the promontory, and at the same time the cervix came into place. The tumour reduced reached to the umbilicus. This reduction changed the physiognomy of the case. Extirpation by laparotomy might have been tried, which presented no special difficulties, but Vulliet preferred to have recourse to dilatation. When the uterus was largely dilated he could find nowhere a circumscribed tumour. The entire organ was hypertrophied; the walls were uniformly thick. It was probably the kind of new growth described by Virchow as general hyperplasia of the uterine fibro-muscular tissue. A Hodge's pessary was introduced to prevent another retroversion. This woman is at present well. The uterus has considerably diminished in volume.

In this case if reduction had not been accomplished, it would have been necessary to perform sub-vaginal amputation of the uterus, while, when once reduction was accomplished, the case became entirely different; the urgency of operating disappeared, and tamponing availed to bring about a considerable diminution of the hyperplasia and its symptoms. Dilatation in a like case is replaced by an operation which gives many chances for a fatal ending.

CASE XII.—Mrs. A. H., aged thirty-three, married, multipara, anæmia for several years. In 1882 she received bad treatment from her husband—kicks, &c. Since then she experiences continual contractions in the abdomen, constipation, frequent nausea. Menstruation always regular. Since 1883 she has had watery discharges and whites. She came to the Policlinic in September, 1887. She had not consulted a doctor. General condition: Well built; anæmic; abdominal facies. Local condition: Projecting abdomen; voluminous uterus, extending four fingers' breadth above the umbilicus, situated rather to the left; cervix normal, closed; anterior *cul-de-sac* relatively free. In the posterior *cul-de-sac* is felt a round body, with an even surface, smooth and voluminous. Sound enters fifteen centimetres deep. Dilatation with laminaria and prepared sponges, combined with iodoform tampons; these were well supported. In six days two fingers could be introduced into the uterus just above the internal orifice. At this point the anterior wall appeared quite free. In the posterior wall is felt a convex tumour, hard and fibrous, commencing just above the internal orifice. As I was alone I could not bring down the organ; and as the cavity was very deep (fifteen centimetres) for exploring with only two fingers, I continued the dilatation by introducing eleven iodoform tampons, each as large as a walnut.

Vulliet being obliged to leave for a certain time, and not wishing to undertake the case, I stopped the dilatation for the time being. The patient returned in November. At the examination I was astonished at the diminution of the tumour—the uterus had fallen three fingers breadth below the umbilicus. Thinking that this happy result might be due to the intra-uterine iodoform tamponing, I recommenced the dilatation.

November 9.—Laminaria.

November 10.—10 iodoform tampons in the cavity, and prepared sponge.

November 11.—15 iodoform tampons and large prepared sponge.

November 12.—19 large iodoform tampons without sponge.

November 13.—3 laminaria, separated by tampons.

Before each *séance* of tamponing, intra-uterine irrigation with corrosive sublimate solution. At the end of five days the dilatation was at the same point as when I left off the first time. Having kept this degree of dilatation for four weeks I left the patient at rest, and commenced again about the 15th of January. At each dilatation the uterus was notably reduced in size. It augments, it is true, in volume at the time of menstruation, but afterwards it comes back to the proportions it had before. In spite of these relapses a regular reduction in volume was obtained, and the greater part of the *malaises* as well. Mrs. H. can continue her daily occupations.

I have mentioned this case although there was no surgical intervention to extirpate the new growth; it supports certain ætiological considerations as to fibro-myomata that I mentioned in the commencement of this memoir. This is not the only one; in the greater number of cases that underwent tamponing, the volume of the new growths diminished very much. The fibromatous tumour seems to be a kind of *goître* of the uterus on which iodoform appears to act in the same manner as in cervical *goître*.

The following two cases were kindly communicated to the translator by Professor Vulliet, and have never been published:—

CASE I.—Mrs. P., aged forty-two, pluripara, consulted Professor Vulliet in July, 1885, for a large fibroma which had reached the level of the umbilicus some time previously. She lost blood in abundance during and between her periods. The Professor performed dilatation; the hæmorrhages stopped. In August and September the menstruations were normal. In October the hæmorrhages appeared again, and in December she came and begged to be operated upon, being poor she could not be detained at home by her sickness. Having already performed dilatation, I had been able to foresee that it would be very easy to obtain, in a short

time, a large dilatation of the uterus. This consideration, as well as the splendid results that enucleation had given me, encouraged me to have recourse to this method. I regretted, as will be seen later on, having changed the rules which had guided me before—rules, in accordance with which, I had applied my operation only in the case of small or medium-sized myomata. In this case I tried to operate in a space measuring 18 centimetres, and on a uterus reaching to the umbilicus. On November 8th I commenced dilatation; on the 12th it was so complete that I could introduce four fingers into the uterus. By bi-manual palpation I could distinctly feel a fibroma as large as a child's head, situated at the fundus of the uterus in the superior and posterior walls. Being absolutely interstitial, it caused no projection in either the interior or exterior of the organ. I cut down on it, making a long incision into the capsule, this incision was not deep; no complication. Two days later the patient entered into labour which lasted two hours and then stopped. The next day I introduced my finger into the uterus, I felt a little mass of fibro-myomata forming a hernia into the half-opened inferior part of the incision. I introduced new tampons, hoping to produce a spontaneous delivery. Labour commenced again during the day, but was feeble. On the next day things were the same. The woman having lost blood during two years was very weak. On the evening of the 16th of November there was a slight elevation of the temperature. On the morning of the 17th the fever having increased, and the patient's expression presenting a certain degree of alteration, I foresaw the danger. Introducing the entire hand into the uterus, I made fruitless efforts to seize the new growth, and succeeded in drawing down only insignificant fragments. Placing the patient in the genu-pectoral position, with the aid of my intra-uterine speculum I could see that part of the new growth which formed the hernia in the incision, but could get no further. My inability to extract or enucleate the growth, resulted from the fact that the field of operation was situated too high up. I could not reach it either by downward traction or by pressure from above. I was certain that I could easily operate on the entire neoplasm if it were only three or four centimetres lower down, for I had every facility for manœuvres in the breadth of the cavity. I proposed abdominal hysterectomy, but the patient having had shooting pains absolutely refused to submit to the operation, hoping that the affair might terminate by delivery. She died in the night of the 17th.

I will not argue the point that hysterectomy would not have probably given another result, for the patient, bloodless and worn-out, presented the most unfavourable conditions for a laparotomy. I restrict myself to the statement that the only fatal case occurring after the application of my method is just this one, where I transgressed the limits that I had proposed before my first publication,

and I draw from this case this conclusion—that enucleation must not be attempted when the fibroma is situated too high for one to force its extraction at the first sign of infection.

CASE II.—Miss R., of Lyons, aged sixty-five, virgin, menstruated at twelve years; health excellent up to the age of forty-five. She then noticed that she was getting stout; she performed palpation on herself, and felt some hard and movable masses in her abdomen which protruded on each side of the linea alba, and reached, she said, at this time a hand's breadth above the pubes. Having no pain she did not consult a doctor. At the age of fifty-two she was suddenly and without any appreciable reason attacked with peritonitis, which appears to have been severe. She was already convalescing from this peritonitis when she was attacked by an acute affection of the chest, which put her life in danger. This complication is important. I take note of this pleurisy or pneumonia for it seems to have given rise to embolism as will be seen later on. Miss R. was in bed 63 days; she never recovered her former health; her menstruation, which had been normal until the peritonitis, never once appeared again. As she suffered from her abdomen, she was sent by her doctor to Lyons. The specialist consulted, diagnosed a fibroid tumour and advised subcutaneous injections of ergotin. This treatment produced no improvement, but the patient, although gradually becoming more feeble, did not try any other. She came to Geneva, August 6th, 1888, to consult Professor Vulliet. The examination showed the following: a pale, nervous woman, with cachectic aspect; she walked with difficulty on account of pains and abdominal weight; she lost a clear, transparent, yellow liquid in great quantity. Abdominal palpation and vaginal touch revealed a median tumour, embossed, of irregular consistence, feeling in certain parts as hard as stone and, wherever the finger pressed, arterial pulsation could be felt; it reached the umbilicus, the fundus uteri formed a ball as large as an orange and extended on both sides in the form of horns; the horns came within about three centimetres of the superior anterior iliac spines, and both ended in a swelling as hard as bone; the tumour was slightly movable, causing the posterior *cul-de-sac* to move with it. It was impossible to introduce a small whalebone sound more than two centimetres; this caused a severe hæmorrhage. The patient entered Professor Vulliet's clinic, and dilatation was practised—this was extremely difficult and laborious, and was performed very slowly. In the first phase (six days) only a progressive catheterism with soft sounds was performed. In the second phase sticks of laminaria were twice introduced. In the third phase dilatation was produced only by tampons. At the end of fifteen days the cavity was widely open and admitted a finger and blunt curettes as well as irrigation cannulas of large dimensions. There was no fever and the patient felt better, as if the dilatation alone



had produced relief. *Examination by intra-uterine touch* : the patient having been anæsthetised, the Professor introduced his finger into the uterus ; it entered with ease but, as the tumour did not descend either by pressure from above or by traction by forceps, there was no means of penetrating more than five or six centimetres into the cavity, which measured twelve centimetres in depth ; as far as the internal orifice the consistence of the uterine walls was normal and supple, but from this point the finger felt as if it penetrated into a box of bone or stone, so great was the rigidity of the walls ; the organ could not be bent or moved in any direction, it was perfectly rigid ; in front and in the back only was there a certain suppleness. The dilatation was obtained only by means of these two zones ; the rest did not seem susceptible of expansion. The entire anterior face of the walls of the parts accessible to the finger were covered by voluminous buds. A curette being introduced brought out about 100 grammes of buds, mixed with friable pieces, which appeared like degenerated fibroid tissue. Vulliet was about to stop the scraping, which did not bring anything else away, when he felt the instrument touch a hard surface, which gave the same sensation as a vesical calculus might give when touched by a metallic sound. It was impossible to withdraw the smallest piece capable of showing the nature of this hard body. The uterus was well irrigated, and then tampons were introduced. Forty-eight hours after, attempts were again made, which withdrew a small quantity of a crushed and shapeless calculus. A microscopical examination was made, and it was found that there was a new growth, composed of fibroid tissue, having undergone calculous degeneration, and complicated with an endometritis. It is useless to describe in detail the numerous remedial measures adopted to combat this disease. During six weeks this patient was placed on the operating table every second day, and, by means of the curette and forceps serving as lithotrites, we extracted more than 250 grammes of *real stone*. Sometimes this was only *débris*, in the form of grit ; sometimes irregular pieces, of which the largest was as big as an almond, were extracted. Some seemed to have been broken by the operation, while others produced the impression of an independent nucleus, offering the shape of little shells, and retaining on their surface certain imprints—due probably to the moulding in some recesses of the shell ; several must have been encased in the wall. As these foreign bodies were removed the uterus became smaller ; at the end of a month it did not reach above the symphysis. The region of the horns was then attacked. Their extraction was executed in the same manner as for a calculus in a canal. The first extracted were from one to two centimetres in diameter ; the others, as they approached the more external parts of the horns, were smaller. I collected all the *débris*, and gave it to Professor Zahn. At the end of six weeks' treatment the uterus was in its normal condition ; the

consistence everywhere the same. Neither the sound nor bimanual examination revealed the existence of a foreign body. In spite of this long series of operations the patient gained her strength and flesh, and these multiple extractions had caused only slight sufferings compared with those occasioned by any uterine dressing, even in a most tolerant uterus.

If we take into consideration the facts established by this case, we find—1st, general augmentation in the volume of the uterus; 2nd, an infiltration or a calculous deposit in the interior of the walls of the organ; 3rd, fibroid tissue in abundance. These facts as well as a microscopical examination, lead us to diagnose multiple interstitial fibroma or fibroid infiltration, having undergone calculous degeneration. Scraping opens the capsule, and by the opening thus practised the extraction of the calculous deposit is mechanical. A wide and permanent dilatation by tampons can alone permit such an operative procedure, otherwise abdominal hysterectomy would have been resorted to, and this presented itself in very bad conditions. This patient, who had recovered her health entirely, died six weeks after her recovery in a most sudden manner; she presented no abdominal symptoms and no swelling of the legs. The family would not consent to an autopsy, so that nothing could be learned as to the nature of the cause of death.

*Conclusions.*—1. Vulliet's method is applicable whenever a notable disproportion exists between the depth of the uterine cavity and the largest diameters of the tumour. 2. It can produce a radical cure of fibromata when there is a layer of contractile tissue on the peripheral side, and when the neoplasm does not present degenerations which alter its consistence. 3. Antiseptically conducted, it can take its place in the first rank of operations which are not dangerous. 4. It conforms with the principles of conservative surgery inasmuch that the uterus is not mutilated, and that it does not necessitate castration of the uterus. 5. It widens the cycle of operations performed by the natural passages. 6. The dilatation exercises an evident hæmostatic action. 7. Iodoform tampons appear, as topical application, to produce a lasting reduction of the neoplasm.