OVARIOTOMY:

PEDICLE SECURED BY SILVER WIRE AFTER THE FAILURE OF THE ACTUAL CAUTERY TO ARREST THE HÆMORRHAGE: CURE.

By J. MARION SIMS, M.D.

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Mrs. D., aged 52, an American lady, residing at Paris, the mother of six children, had always enjoyed good health till the spring of 1865, when she had occasional attacks of nausea and vomiting, which she thought might be due to change of life, as menstruation then began to be irregular. The nausea continued in spite of remedies; and she consulted Dr. Arnal about twelve months ago, who diagnosed an ovarian tumour on the right side. In February last, she consulted Dr. Trousseau. In March, she sent for Dr. Beylard, her regular medical attendant, who again called Dr. Trousseau in consultation. From this time the abdomen grew rapidly larger. In May and in August, she saw Dr. Velpeau in consultation with Dr. Beylard. The tumour was then very large. She vomited almost all her food, and was emaciating very rapidly.

Dr. Beylard asked me to see her on November 9th. She measured fifty-three inches around the abdomen, and twenty-three inches from the ensiform cartilage to the pubes. I diagnosed a multilocular ovarian cyst, probably without adhesions, and advised its extirpation as the only hope of a cure.

The operation was performed on Sunday, Nov. 18th, at the Hôtel du Pavillon de Henri IV at St. Germain. I was assisted by Drs. Beylard, Johnston, Darby, Buckler, Lailler, and Thierry-Meig. Dr. Beylard administered ether. An incision, three inches long, was made in the usual way through the abdominal walls, and the cyst was exposed. The trocar was introduced, and emptied one of its largest compartments of about ten pounds of a dark brown serous fluid. Five other compartments of the cyst were in turn punctured; but in two of them the fluid was too thick to flow through the tube of the trocar. The other three gave vent to about twenty pounds more of fluid. To expedite the operation, the external incision was enlarged to the extent of five inches, which allowed me to extract the remainder of the tumour *en masse*. It was attached to the right broad ligament. The pedicle was short and broad. When spread out in the clamp, it measured four and a half inches in width. Its veins were large and tortuous. It was severed by the actual cautery, according to the plan of Mr. Baker Brown.

On removing the clamp, blood began to ooze from the end of the line of cauterisation farthest from the fundus uteri. The bleeding seemed to be chiefly from the open mouths of the large veins. An inch of tissue including the veins was encircled in a loop of silver wire, which was drawn tightly, twisted firmly, and cut off close to the twist. The mere mechanical manipulation of doing this unfortunately tore open the whole extent of the line of cauterisation, and blood oozed out from every part of it. To secure this long line (nearly four inches) of bleeding surface, it was necessary to introduce five other loops of silver wire, embracing as many segments of the bleeding pedicle, each of which was twisted separately and cut off close, as before described. The uterine artery spouted furiously, and required a special ligature. After the bleeding was wholly controlled, the pelvic and abdominal cavities were thoroughly cleared of the fluid that unavoidably escaped into them, and the external incision was closed by a continuous suture of silver wire. The whole of the peritoneal membrane, whether lining the walls of the abdomen or investing the intestines, was deeply congested, and had a red granular appearance. The tumour had no adhesions; and, notwithstanding the appearance of the peritoneum, there was no unusual amount of serum in its cavity. She was fully under the influence of ether only during the early period of the operation, and recovered easily from its immediate effects. Reaction was established in two hours with a pulse at 108, which at midnight fell to 96. She vomited only twice during the afternoon, and was wholly free from pain or suffering of any kind.

About two hours after the operation, the urine (fourteen ounces) was drawn off by the catheter; but after this she passed urine spontaneously and freely. The bowels were moved spontaneously on the third day. She slept every night without anodynes; and took nourishment with a relish from the first day.

There was nothing whatever worthy of remark during the convalescence. The external wound healed perfectly by the first intention. The silver sutures were removed on the tenth day after the operation. She sat up and walked across the room on the eleventh day, and on the twenty-second day she returned to her house in Paris perfectly well.

The solid part of the tumour removed *en masse* weighed eleven pounds, and the fluid thirty-two pounds. Dr. Johnston and others present estimated the loss of fluid during the operation at eight or ten pounds. The whole amount was probably near fifty pounds.

In one of the cysts the fluid was straw-coloured, in another coffee-coloured, and in one it was as dark as sugar-house molasses; in others it was of the consistence of jelly.

The operation of removing the tumour lasted twenty minutes, and the time taken in securing the pedicle was about twenty minutes more.

Ever since the first introduction of the use of silver sutures in 1849, I have advocated the application of the metallic ligatures to the pedicle in ovariotomy. In 1858, this view was held forth in my paper, "On Silver Sutures in Surgery". Since then, I have carried it out in practice.

Dr. Nélaton performed the operation of ovariotomy in Paris in May 1864, on a patient of Sir Joseph Olliffe, and kindly allowed me to secure the pedicle with silver wire. It was transfixed by a double wire, which was cut in two, and each half was twisted tightly on opposite sides of the pedicle. This was then cut off near the ligatures and returned into the cavity of the abdomen, and the external wound was closed by silver sutures. Unfortunately for the poor patient, she died on the fifth day after the operation, of blood-poisoning from peritoneal exudation. But, fortunately for science, a *post mortem* examination showed the metallic ligatures entirely embedded in the tissue of the pedicle, and so perfectly sacculated that I was obliged to cut into its structure to find them.

The wire had cut into the tissue, and this had healed behind its track, and thus it was wholly covered up and hidden from view. I was able to foretell what would be its method of action by observation from analogy. In 1850, by means of a silver wire, I made the effort to strangulate a warty excrescence on the cheek of a lady sixty years old. It was of about the size of the end of the little finger, and projected at least half an inch above the surface.

It was hard to the touch, and of a reddish tint. On tightening the wire at its base, the top became of a deep purple colour, showing that its circulation was momentarily arrested. On visiting my patient the next day, I was surprised to find the excrescence of its original colour, without the least sign of a disorganising process. On the contrary, its circulation was going on as vigorously as before the application of the wire. On a minute examination, I found that the wire had cut a bed for itself entirely around the structure embraced, and that the tissue so cut had overlapped the wire and healed over it, thus encasing or sacculating it completely, and this within the short space of twenty hours. Of course, it was a mistake to apply the wire at all with the idea of producing a slough, and it was clipped and drawn out.

Notwithstanding this lesson, I made the mistake again of applying a silver wire to a hæmorrhoidal tumour, with the expectation of strangulating it. The strangulation was only momentary; for, two days after the operation, I found the hæmorrhoid presenting almost the identical appearance that it did before the operation, while the wire was partially embedded in its structure and securely held there by a cicatrising process such as that described in the case above. The experience gained by these two experiments gave me the idea of applying the wire to the pedicle in ovariotomy, and of explaining its probable action; while the fact observed in the case of M. Nélaton and Sir Joseph Olliffe demonstrated the truth of what was so naturally inferred.

It was a great improvement in the operation of ovariotomy when, a short time ago, the pedicle was drawn out and secured by a clamp externally to the abdomen, instead of being tied with a cord, as formerly, which was then allowed to hang from the lower end of the external wound, thus acting the part of a seton and exciting the action which it should have been our object to prevent. But I think a still greater advance is made, when we can secure the bleeding pedicle in such a way as safely to replace it within the abdominal cavity, and thus allow the external wound to be healed throughout its entire length by the first intention.

For this desirable end we now have two methods: the one of treating the pedicle by the actual cautery, so successfully practised by Mr. Baker Brown; the other by means of the metallic ligature.

The actual cautery does not always succeed; and the case above described clearly proves that we have a safe and sure resource in the silver ligature.

At a recent discussion at the Obstetrical Society in London, the fact was elicited that the actual cautery failed to arrest the hæmorrhage in one-fourth of the cases operated upon by this method by Mr. Harper. It is well to know this, and to be prepared for such a contingency.

In Mr. Baker Brown's last thirty-nine operations he has used the actual cautery, and has lost but five cases.

I am well satisfied that the actual cautery and the metallic ligature are at present our safest means of securing the pedicle in ovariotomy.

No surgeon can expect to perform this operation successfully who is in the constant habit of making dissections or *post mortem* examinations, or of dressing erysipelatous or other poisonous wounds. And it is quite as essential that each of his assistants, even the meanest sponge-washer, should be as clear of all contaminating influences. Mr. Spencer Wells, M. Maisonneuve, and others, have observed that very many deaths after this operation are due to blood-poisoning, as a consequence of a sero-sanguineous exudation into the cavity of the peritoneum. When this is the case, the proper course is to puncture the peritoneal cavity through the posterior vaginal *cul-de-sac*, evacuate its contents, and keep it drained and even washed out. This idea and operation are due to my distinguished countryman, Dr. Peaslee; and I believe it has been carried into practice also by Mr. Spencer Wells.

SECOND CASE OF

ASIATIC CHOLERA IN THE GENERAL PRISON FOR SCOTLAND.

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Two cases of Asiatic cholera have occurred in the General Prison for Scotland at Perth. Professor Christison has reported in the British Medical Journal for January 5th the first case, which proved fatal on the 11th July last; and at his request I have forwarded my notes of the second case of Asiatic cholera in this prison, which appeared on the 28th October last, after an interval of three calendar months and seventeen days. There had been no premonitory warnings to the first case nor yet to the second, and the interval was passed without any case of diarrhœa or disturbance of the stomach and bowels worthy of notice; neither has there been in the prison, containing a population of about 720, any diarrhœa subsequent to these cases of any significance; there has been less, indeed, than is usual at the autumnal season.

The second case, which I now narrate, deserves special attention because of its having appeared in the same dormitory of the lunatic department as the first case reported by Professor Christison.

It is proper to note that this prison possesses a singular immunity from epidemics, even when prevailing in the locality; the general health is good; and the average death-rate *per annum* for the last twenty-four years is about 14 per 1,000.

W. McD., aged 48, was admitted on the 3rd October, 1865, insane. This prisoner had enjoyed good health from the date of his admission till the 28th October last, when he was attacked with cholera. He arose, washed and dressed himself, took his breakfast heartily of porridge and milk, and seemed quite well.

I was called to see him at 12.30 P.M. His own statement was that, two or three hours before, he had vomitings and purgings, all of which had been in the water-closet and could not be seen. When I first saw him his countenance was natural: pulse 75, firm; extremities warm. He had a draught of liquor morphiæ; and a sinapism was applied to his stomach.

1.30 P.M. Purging and vomiting continue. There was a small trace of bile in the dejections. The patient refused drugs, and with difficulty was induced to take one grain of opium. The sinapism was ordered to be re-applied.

4 P.M. There had been collapse. The pulse at the wrists was gone; but, after small doses of brandy in iced water, he rallied. He had spasms in his feet and legs, he said "the devil was pinching him in the legs and arms." His eyes were sunken; the breath cold. The body was carefully surrounded with bottles of hot water; stimulants were continued with soda-water; and every fifteen minutes a small dose of calomel and opium was given.

7 P.M. He was somewhat better; but no pulse could be felt. The patient was removed to an out-house, isolated, and under charge of a nurse, so that all communication was cut off from the other prison inmates. During the night the calomel was perse-