the sublingual tissues, by dividing the skin in the middle line, then sawing the jaw through on each side, and, having isolated the tongue somewhat on each side, by enclosing the whole of the disease with the wire of the galvanic écreuseur. The parts removed consisted of the middle three inches of the lower jaw, nearly the whole of the tongue, and the sublingual muscles and glands *en masse*. At the posterior end, the mass measured two and a half inches in depth, and slightly more from side to side. The tongue appeared to be healthy, except at the anterior part; and on the left side, just behind the tip, was a nodule of the size of a pea. Beneath the tongue was a mass of a yellowish white firm tissue, with a granular surface, which was continued quite up to the cut margin. This tissue, on microscopical examination, proved to be epithelioma.

The patient made a good recovery, and was alive and well two years after the operation. He recovered a surprising amount of power of deglutition and speech, due principally to the growth of the stump of the tongue already noticed. The occipital pain complained of by the patient is difficult of explanation, but was entirely relieved by the operation. I have noticed it in other cases of cancer of the tongue (*Lancet*, 1876, vol. i).

My friend and former pupil, Mr. Rushton Parker, of Liverpool, has recorded (*Medical Times and Gazette*, December 1st, 1877) two cases in which he performed almost as extensive operations as in the foregoing case. In one patient, aged 58, he removed, in 1876, half the tongue, parts of the upper and lower jaws, the submaxillary glands, and a portion of the pharynx, for extensive epithelioma, the patient recovering, and being perfectly well in 1880. In the other patient, aged 54, he removed one-half of the tongue, half the soft palate, the side of the pharynx, the submaxillary glands, and part of the lower jaw for epithelioma; but, unfortunately, a recurrence of the disease took place in the neck.

CLINICAL LECTURE

ON A

CASE OF CÆSAREAN HYSTERO-OÖPHORECTOMY, OR PORRO'S OPERATION; WITH REMARKS.

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[Concluded from page 912.]

OBJECT OF THE OPERATION.—Porro was led up to his bold proposal by a consideration of the conditions under which the Cæsaean section had been so frequently fatal. In his own city, for example, no woman who had ever been subjected to the operation had survived. It seemed to him that the chief source of danger lay in the wounded uterus. This was sometimes the source of a fatal hemorrhage. In whatever way the lips of the incision might be brought together at the moment of operation, they were liable, in the changing moods of the puerperal uterus, to become separated. There might take place an escape of blood, not immediately dangerous in amount, but dangerous from its liability to escape into the peritoneal cavity, where it sometimes set up fatal peritonitis. The usual puerperal secretions from the inner surface of the uterus were liable to escape into the abdomen. The tendency to peritonitis was further increased by the chance of septic matters passing up along the genital canal and through the gap in the uterine walls. All these risks were likely to be lessened, if not entirely removed, by the removal of the injured organ. The wound-surface of the stump would not be so great as that of the necessary incision through the uterine parietes; and the stump would be amenable to the means of controlling hæmorrhage that have given good results in the removal of ovarian and uterine tumours through an opening made in the walls of the abdomen. Fortified by such considerations, and by the results of experiments on the lower animals, which showed that more recoveries took place when the wounded gravid uterus was removed than when it was left after the fœtuses had been extracted by Cæsaean section, Porro carried out his idea successfully in the woman who was thus the first in Pavia to survive a Cæsaean labour.

The removal of the ovaries is a necessary complement to the removal of the uterus. The loop that encircles the neck of the uterus has the ovaries within its embrace; and they are cut off with the uterus, instead of being left adherent to the stump. If they were left, and retained their vitality, the return of their functional activity might easily give rise to periodical troubles in a patient to whom they were no longer of any physiological value.

It is no drawback, but rather an advantage attaching to this procedure, that it annuls the further reproductive powers of such patients as are fitting subjects for its employment. For the most part, they are delicate, deformed, diseased, without the power to rear and care for more than a single child. The cases are few, where a woman who has to be delivered by a Cæsaean operation will be anxious to multiply her children.

As experience has grown in connection with Cæsaean hysterectomy, further advantages have been found to attend it. In cases of malacosteon, for example, which furnish a notable contingent of the women operated on, the patients who survive have been seen in one or two instances to recover distinctly from their disease. After any other kind of delivery, cases of malacosteon usually become worse; and the successful result of these Porro's operations has raised the question whether double oöphorectomy should not be had recourse to as a curative measure in other cases also.

Again, we are not obliged to wait the onset of labour, or to use means to start it, as in the ordinary Cæsaean operation we are compelled to do. The chances for the child are thus greatly improved; and, as it sets us free to choose our time for operating, we put the mother also in a more favourable position for success.

Such being the nature of the Porro procedure, it is easy to see what are the

INDICATIONS FOR THE OPERATION.—It will be applicable to all the cases where Cæsaean section is called for. British obstetricians have always been very shy of this grave operation. Indeed, but for the faithful advocacy of Hull* and Radford,† it ran some risk of being ranked among the condemned operations. Little wonder, when we see, from Dr. Radford's table of 132 cases, that only 23 women, or 17.42 per cent., survived the process. Less wonder, if in Scotland the operation was rarer still; for, of the 18 women tabulated by Dr. Radford as having been subjected to the Cæsaean section, not a solitary individual survived. Sir James Simpson used to refer in his lectures to one successful case as having occurred in Scotland; which had, however, not been registered in any scientific table. It was performed under unpromising circumstances, by a rude operator, and with a rude instrument; for the operator was a cow in the Queen's Park, and the instrument her horn. But the high mortality in Britain may be read the other way; and G. A. Michaelis‡ and other continental writers have read for us the lesson, which a recent discussion in the Dublin Obstetrical Society on an interesting paper by Dr. Kinkad§ leads me to think we shall soon effectually learn for ourselves, that the high mortality is largely due to our very timidity; for often the performance of the operation was delayed until various other means of delivery had been attempted, and was only had recourse to as a *dernier ressort* when the woman's chances of recovery had already been thrown away. The table of the Porro's operations which I have given above shows a mortality to the mothers of 58.3 per cent., whilst the lives of 79 per cent. of the children were saved. If the mortality still seems high, it should be remembered that, whereas many fatal cases of the classical Cæsaean operation never saw the light, all the Porro's operations have been tabulated, whether favourable or unfavourable; and in a considerable proportion of them the child was already dead, and the mother in a hopeless condition before she was subjected to the operation. But, if the statistics improve, as they are likely to do when the conditions of success come to be more clearly understood, then I do not doubt that the supplementing of the Cæsaean operation with the utero-ovarian amputation will help markedly to widen the field of its application. We need not always be tied down only to operate where the pelvis measures less than two inches in the conjugate diameter of the brim; but in the case of women with a pelvis somewhat roomier, yet still so narrow as to call for the sacrifice of child after child, we shall be warranted in giving them the satisfaction of seeing a living infant by an operation which they have a distinct chance of surviving. The indications for the operative interference have not in all cases been recorded; but the following table shows the conditions which have called for the operation

* *Defence of the Cæsaean Operation*. Manchester: 1799.

† *Observations on the Cæsaean Section, Craniotomy, and on other Obstetric Operations*. Second Edition. London: Churchill, 1880.

‡ *Abhandlungen aus der Geburtshülfe*, p. 131. Kiel: 1833.

§ *Dublin Medical Journal*. Vol. lxi, p. 445. 1850.

in sixty-two of the cases already carried out, with the relative mortality to the mothers and children.

INDICATION FOR OPERATION.	No.	MOTHERS.		CHILDREN.	
		Saved.	Lost.	Saved.	Lost.
Rickets	46	24	22	39	7
Malacosteon	8	4	4	6	2
Dwarf pelvis	1	1	—	1	—
Osteo-sarcoma	1	—	1	—	1
Stenosis vaginae	1	—	1	1	—
Uterine fibroids	4	—	4	1	3
Partial rupture of uterus	1	—	1	—	1

Before discussing the various steps of the operation, it will be well to try to determine

THE BEST TIME FOR OPERATING.—In certain cases, the operator has no choice. He comes to a patient already in labour, and he sees that the woman has no chance of delivery but by *sectio Cæsarea*. The sooner he can carry out the operation, in such a case, the better. For the law laid down by Sir James Simpson,* that the mortality of parturition, both to mother and child, increase with the increase in duration of the labour, has been abundantly illustrated in the statistics of Cæsarean labours drawn up by Kayser† and others. It is one of the great advantages of the operation supplemented by Porro's procedure, that the operator can choose his date, and regulate the circumstances with due precision. I believe that the best time for the operation is at the full term of pregnancy, on the first day on which the patient is likely to fall in labour. It will be well even to be prepared to anticipate it, should any symptoms of labour set in at an earlier date than the expected day, as in the case recorded by Professor Veit‡ of Bonn. The propriety of having recourse to the Cæsarean section, before the onset of labour, has been advocated and discussed by Drs. Braxton Hicks,§ Barnes,|| and others. But, where it was deemed desirable to operate before gestation had run its course, it was seen to be a necessity in the operation, as hitherto practised, to have the uterus in action before the operation was begun, lest, after its evacuation, hæmorrhage might occur

Fig. 2.—Relations of the Bladder before the commencement of Labour. A. The Symphysis Pubis, with the Bladder behind and below. (From Braune's *Atlas*.)

* *Selected Obstetrical and Gynecological Works*. Edited by Dr. Watt Black, page 412.

† *De Eventu Sectionis Cæsareæ*. 1841.

‡ *Zeitschrift für Geburtshülfe und Gynäkologie*, v, 256. 1880.

§ *Transactions of the Obstetrical Society of London*, vol. x, p. 45. 1869.

|| *Obstetric Operations*. Third Edition, p. 427.

from the unexcited, inert, inactive organ. The Porro's complement relieves us from this fear, and leaves us free to open an uterus which has not yet entered on its parturient function. The advantages of operating before the uterus has begun its work are, at least, these three. 1. We are not so liable to meet with trouble on the part of the bladder. A glance at Braune's plates of the frozen sections of a woman in advanced pregnancy (see Fig. 2), and in full-labour, respectively, lets us see that, in the non-parturient gravida, the bladder is a pelvic organ; whilst, during the process of parturition, it is lifted above the symphysis pubis, and becomes abdominal (see Fig. 3). 2. We are

Fig. 3.—Relation of the Bladder during labour. A. The Symphysis Pubis, with the Bladder lifted above it in relation with the Abdominal Wall. (From Braune's *Atlas*.)

saved the difficulty that several operators have experienced, during the removal of the child, from contraction of the uterus round its neck. 3. The uterus will not have taken on the hyperæmia of an organ in full functional activity, and the hæmorrhage will be all the less. These considerations affect more the maternal chances, as dependent on the local conditions, and without regard to her general state and vigour. We should remember, besides, that the child, in whose interests we are exposing her to the Cæsarean risks, may begin to have its chances of survival influenced by the conditions of labour, especially if early rupture of membranes take place.

TECHNIC OF THE OPERATION.—In carrying out the operation itself, we begin with

1. *Incision through the Abdominal Wall.*—The only question, in regard to this incision, is that concerning its length. All operators now make the opening in the linea alba, but of lengths varying from 5 1/2 inches (13 centimètres) to upwards of 7 inches (18 centimètres). The shorter incision is certainly to be preferred, and it should run from below the umbilicus to within 3 centimètres of the pubes. When it becomes necessary to elongate it, it should be extended upwards to the left of the umbilicus. Operators who have made the long incision, have done so in carrying out a modification first suggested and carried out by Professor Müller* of Berne. The modification consists of enlarging the abdominal wound sufficiently to allow the protrusion through it of the unwounded uterus, which is to be surrounded with a cord, or with the noose of a *serre-naud*—so that the circulation is arrested before the incision is made through its walls. The object of this modification is to lessen the risk of escape of blood and uterine contents into the abdominal cavity.

This preliminary extrusion and constriction of the uterus, however, introduces special elements of danger. To the mother, there is the

* *Centralblatt für Gynäkologie*, 1878, No. 5.

additional risk attendant on a larger wound; the increased exposure of the peritoneal cavity; and the liability to protrusion and injury of the intestinal coils. To lessen these, the upper part of the wound had sometimes to be stitched up before the opening was made into the uterus. Even when the wound was of considerable length, difficulty was experienced in getting the uterus to protrude, and its size had to be diminished by evacuation of the liquor amnii. So for the child, fresh risks are incurred, especially from the interference with the placental circulation, leading to temporary asphyxia, and probably to attempts at intra-uterine respiration. Hence, for example, in Dr. Elliott Richardson's, the only successful case that has yet been reported from across the Atlantic, he says: "At birth, the child was in a condition of suspended animation—so that considerable effort had to be made at resuscitation." To such risks, I think, we are hardly warranted in subjecting the child.† The only condition in which it might be advisable to continue Müller's procedure would be where the waters had been evacuated, the child being dead, and the uterus possibly the seat of noxious material. In all other circumstances, contenting ourselves with a short abdominal incision, we proceed with

2. *Incision through the Uterine Wall.*—It is during the opening of the uterus that there arises the greatest risk of hæmorrhage. The risk is, of course, increased, if the line of incision fall through the placental area. This risk may be quite inevitable. If our palpation have led us to suspect that the placenta is attached to the anterior wall, if the blueish appearance of the uterus as it appears through the abdominal opening confirm the impression, and if Halbertsma's‡ suggested application of Middeldorpf's akidopeirastic make us sure, we still do best to cut through the centre of the anterior wall. To make the incision closer to the margins of the uterus, simply introduces the risk of wounding the large branches of the uterine arteries. The hæmorrhage, as I have stated, in my own case was trifling. I had the advantage of having to do with a quiescent uterus, and an anterior wall free of placental attachment. The opening, made with a sharp bistoury, in the upper part of the surface, was carried right through the membranes of the ovum, and of size sufficient to allow of the introduction of the finger, which guided a probe-pointed bistoury in extending the incision downwards. It must be of length sufficient to allow

3. *Extraction of the Child.*—This requires to be accomplished with all possible rapidity. Perhaps, in most instances, it does not greatly matter how the child is laid hold of. I notice that, in a large proportion, it has been seized by the lower limbs, and so extracted. But, as the interference first with the uterine walls, and then with the child itself, is apt to excite it to respiratory efforts, if the uterine wall close around the neck, as has sometimes happened, these respiratory efforts endanger the vitality of the child as long as the head is within the uterus. Hence, it is theoretically better to lift out the head first; and, in the case I have related, it was practically easy of accomplishment.

4. *Management of the Placenta.*—As the Cæsarean operation used to be carried out, the next step consisted in the detachment and removal of the placenta and membranes. The uterus had to be emptied, and security taken for a free escape of its contents through the cervical canal. That Porro and others, before proceeding to extirpate the uterus, should have continued to remove the placenta, seems to me only a survival of the old method of operating. There is no good to be gained by it; for the uterus collapses sufficiently to allow its easy extrusion through the abdominal orifice, though the placenta be left adherent to one of its walls. The separation and extraction cost some valuable seconds, and must occasion and allow an increase of the hæmorrhage.

5. *Securing of the Stump.*—In carrying out the utero-ovarian extirpation, two different methods have been followed, corresponding to the two methods employed in the removal of these organs when they are the seats of morbid growths. The pedicle has sometimes been secured according to the extraperitoneal method; sometimes according to the intraperitoneal.

a. *Extraperitoneal Treatment of the Pedicle.*—In carrying out this method, operators have encircled the uterus and broad ligaments about the level of the isthmus with the noose of a wire *écraseur*, such as the *serre-noeud* of Cintrat (which was the instrument used by Porro in his first case), or with a similar instrument furnished with a thin strip of metal instead of wire for constriction, or with such a chain as is found in the ordinary *écraseur*. When the wire or metallic loop or chain has been tightened so as to compress the structures firmly without producing any laceration of them, the uterus, Fallopian tubes, and ovaries are cut off with knife or scissors, and the stump in the grasp of the

constrictor is secured in the lower angle of the abdominal wound. The portion in the bite of the *écraseur* sloughs and separates, at a period varying from fourteen to fifteen days.

This method has, *first*, the advantage of being capable of rapid execution, so that there is a correspondingly brief exposure of the peritoneal contents. It allows, *secondly*, perfect control of the wound, which is brought to the surface. *Thirdly*, it lessens the risk of any exudation taking place after the operation into the peritoneal sac.

b. *Intraperitoneal Treatment of the Pedicle.*—When the pedicle is to be treated so as to be dropped and left to heal within the peritoneum, the uterus must first be provisionally constricted with an *écraseur* or an Esmarch's band, or an ordinary piece of fish-line on whipcord. At some distance above this constriction, the uterus is clipped or cut off. A needle in a fixed handle will then carry a strong double silk ligature through the centre of the stump, just below the constricting band. The ligature is divided, and the needle withdrawn. The same needle then carries through the lower part of the left broad ligament a single thread, which will serve to secure the utero-ovarian vessels of that side. The needle, before being withdrawn, is to be threaded with one end of the double ligature, which had been carried through the middle of the stump. This will be used to secure the large uterine artery and vessels in the left half of the isthmus *uteri*. The needle will, in the same way, be passed with a single thread through the right broad ligament, and, as it is withdrawn, will bring back the other end of the double ligature that had first been introduced. I have stated in my report how I thought to simplify this procedure by using three ligatures instead of four, but was obliged eventually to introduce the four. Veit brought the edges of the peritoneum together over the cut surface, according to the plan recommended by Schroeder.

The favourable results obtained from this intraperitoneal method of treating the stump of ovarian tumours—results much more satisfactorily than those obtained by the use of the clamp—lead one to believe that, in Cæsarean hysterectomy, it will sometimes also give better success; but as yet the results have been disappointing.

6. *Cleansing of the Peritoneum.*—In most cases, more or less blood has passed into the peritoneal cavity. This may occur even where the uterus has been brought through the abdominal wound, and ligatured before being opened. The peritoneum requires, therefore, to be carefully cleaned out; and some operators have proceeded, further, to establish a drain through the pouch of Douglas and the vaginal canal, so as to prevent the accumulation of blood and serum in the cavity. For the most part, such drainage is unnecessary.

7. *Closure of the Wound.*—The abdominal wound is closed, as after an ovariectomy. Where the pedicle is secured in the lower part of the wound, it must be cauterised freely, so as to wither the surface; and it must be dressed with antiseptic cotton, which will absorb the discharge which sometimes occurs very freely from it.

The patients who have survived have usually had a period of convalescence of one or two months, protracted in some instances by umbilical herniæ or cervical fistulæ. Among the fatal cases, death resulted in twenty from peritonitis, in three from hæmorrhage, in two from shock, in two from tetanus, in one from thrombosis, and in one from pulmonary oedema.

GENERAL RESULT.—If we look at the general result of all the cases we have brought together, we see that 30 mothers were saved, and 42 lost; and 57 children were saved, and 14 lost; whilst the condition of the children in one of the cases is unknown. This gives a total of 87 lives spared, and 56 lost. If the patients had been delivered by some of the head-crushing procedures, then all the 72 infant lives would have been sacrificed; and, with the usual loss of about 1 in 5 mothers, there would have been at least 14 maternal deaths; that is to say, at least 88 of the 144 lives would have been lost, and only 58 saved. The proportions would nearly have been reversed.

MR. WILLIAM CADGE of Norwich, a member of the Council of the College of Surgeons, will take the chair at the annual festival of the Fellows on the evening of the election.

PROPHYLAXIS.—The *Cincinnati Lancet and Clinic* says that the physicians of Nashville have petitioned the Common Council to prohibit the tolling of bells at funerals, as the tolling has a very depressing effect on the rest of their patients.

BEQUESTS, ETC.—Mr. John McCance has bequeathed £100 to the Belfast Royal Hospital. Mr. E. Pike has given a donation of £50 to the Hospital for Women and Children, Cork. Mr. Forster Green has given £50 to the Society for Providing Nurses for the Sick Poor, Belfast; and a similar amount has been bequeathed to this charity by Mrs. Bushell.

* *American Journal of the Medical Sciences*, January 1881.

† Dr. Harris bids me note that in the thirteen cases in which Müller's modification was adopted, seven mothers were saved.

‡ *Centralblatt für Gynäkologie*, v, 97, 1881.