ated with tubal abortion allow of an easier explanation of abdominal and ovarian pregnancies. The ostium, as has already been noted, is very patulous in early tubal gestation. Let the process of extrusion be slow, and it is easy to conceive how the membranes of the ovum may have time to acquire vascular adhesions to neighbouring structures.¹² The ovum, growing larger, would in time entirely disengage itself from the tube. In early tubal gestation the tube does not always show a well-defined, abrupt, and spherical dilatation at the part where the foetal sac lies. It is uniformly swollen, so that after the escape of an early ovum it may soon collapse and leave no sign that a primary gestation has occurred. Hence the report "tubes normal" in an account of a case of alleged primary abdominal gestation is no evidence that neither have held an early ovum. There is a strong reason for us to agree with Zedel¹³ in believing that early tubal abortion is not rare, being a frequent termination of extrauterine gestation and a common explanation of pelvic hæmatocele.

PORRO'S OPERATION.

Read in the Section of Obstetric Medicine and Gynecology at the Annual Meeting of the British Medical Association, held in Bournemouth, July, 1891.

By CLEMENT GODSON, M.D.,

Consulting Physician to the City of London Lying-in Hospital; late Assistant Physician Accoucheur to St. Bartholomew's Hospital.

In the BRITISH MEDICAL JOURNAL of January 18th, 1890, is a letter from Mr. Lawson Tait protesting against the method adopted by Dr. Harris, of Philadelphia, in publishing statistics of the Porro and Sänger-Cæsarean operations, and attempting to draw conclusions as to their merits without any narration of the history of the cases recorded, as exemplified in his papers in the BRITISH MEDICAL JOURNAL of March 30th, 1889, and January 11th, 1890. In the former Dr. Harris simply states that there have been 250 operations in fifteen countries with 115 deaths—29 deaths in the first 50 cases, and only 9 deaths from the last 50 operations. Dr. Harris adds that "researches are still in progress, and a tabular record will be published when the work is completed." In the absence of these promised tables it is impossible to form conclusions of any value.

At the meeting of the British Medical Association in Liverpool in 1883 I read a paper on Porro's operation, giving an account of the first successful case in Great Britain, and I gave a tabular record, which was published in the BRITISH MEDICAL JOURNAL of January 26th, 1884, and is described in very complimentary terms by Sir Spencer Wells in his little work on *The Diagnosis and Surgical Treatment of Abdominal Tumours*¹ as "a marvel of exactness and amplitude." I venture to say that a glance at this table is all that is necessary to obtain at once the whole of the important details of every operation that had been performed up to that time. In the BRITISH MEDICAL JOURNAL of January 17th, 1885, I published a second table of additional cases under the same headings; and if Dr. Harris would only proceed in the same way, Mr. Lawson Tait could have no possible fault to find with his drawing comparisons therefrom.

No one knows better than myself what a laborious undertaking it is to obtain full information of each operation. When preparing my tables I had to write frequently again and again to the operators for further details. Every excuse is therefore due to Dr. Harris for the delay. I trust, however, that before long we may see issued by him a continuation of the tables published by me. Mine contain 152 cases up to the end of 1884. By this time probably 300 have been performed. Dr. Harris has already written that he knows of 272 Porro and 212 Sänger-Cæsarean operations. I sent him in a tabular form the account of my second Porro's operation, which was performed on June 8th, 1885, in which the result was fatal. This may possibly be the one death recorded in

Dr. Harris's table published at page 709 of the BRITISH MEDICAL JOURNAL, March 30th, 1889, as occurring out of the 5 operations performed in England from January 1st, 1885, to the end of 1888, but it is impossible to be sure of this, for at page 708 Dr. Harris says Great Britain is credited with 16 operations and 5 recoveries; her last 5 cases were successful to the women and children. That implies that the first 11 cases were fatal, whereas my case of November 27th, 1882, the third performed in Great Britain, was successful. This shows at once an error.

Mr. Lawson Tait, in his letter that I have referred to, says, "I have already indicated my belief, and my growing experience confirms it, that the true method of statistical investigation is to display for each case the period at which amputation of the uterus is performed after the commencement of labour. If it be performed within a reasonable number of hours, and before the patient has been unfairly handled, the mortality will be a mere bagatelle, and clearly, therefore, this class of case must not be confused and mixed up with the cases in which all sorts of ineffectual efforts have been previously made, to the exhaustion of the patient and the irretrievable damage to the tissues concerned."

The two cases I am about to record (my second and third operations) show the justice of this argument, for in the first the operation was not performed "within a reasonable number of hours," but not until the patient was in a hopeless condition—already suffering from peritonitis resulting from the ineffectual efforts of the uterus to expel the foetus, although no artificial means had been resorted to; and it would have been a marvel had she recovered. On the other hand, the second case was operated upon before the patient was exhausted or the tissues damaged, and she made an uninterrupted recovery. And so it was with the first case I operated upon in 1882, whom I saw in perfect health a few weeks since.

CASE I.—M. L., aged 28, primipara, married one year and nine months; last menstruated August 20th, 1884. She expected her labour on May 27th, but was not taken ill till Saturday, June 6th, 1885, about 3 P.M. She was visited by a midwife in the employ of the City of London Lying-in Hospital, having an out-patient letter from that charity. On the afternoon of the following day, Sunday, the midwife, finding no progress, sent for Dr. Yarrow, one of the out-patient medical officers. The liquor amnii had been discharged at 3 A.M., twelve hours after the commencement of labour. As soon as Dr. Yarrow examined the patient, he had no doubt, from the size of the conjugate, that Cæsarean section should be performed. He recommended that she should be admitted into the lying-in hospital for this purpose, but Dr. Burchell, who was at that time surgeon-accoucheur to the institution, would not sanction it. Dr. Yarrow, therefore, sent to me begging that I would see the patient with him, and I did so at 10 P.M. The pains were then very severe, although a considerable amount of opium had been administered.

On examination, I found the os uteri considerably dilated, and the funis in the vagina, with no pulsation in it; the vertex presented at the pelvic brim; the conjugate I made out to be less than two inches, and I agreed with Dr. Yarrow that it was not a case for craniotomy, but one for delivery by abdominal section. As it was out of the question to operate in the tiny room where the patient lived, it was decided to endeavour next day to get her admitted into St. Bartholomew's Hospital. This was not effected till 3.30 P.M. on Monday, June 8th, more than forty-eight hours after the commencement of labour.

On admission the patient was found to be much deformed from rickets—height 4 feet, legs much bowed. Pupils greatly contracted by opium. Bowels had not acted for three days; an enema was therefore administered. The pulse was rapid, and there had been frequent vomiting during the night and morning, so that the patient was much exhausted. At 4.15 P.M. she was taken into the operating theatre and ether was administered. The carbolic spray was used, and at 4.25 I commenced the operation, assisted by my colleague, Mr. John Langton, surgeon to the hospital. The uterus was opened by a small incision and then by tearing it across transversely, as in my previous operation. The foetus was easily extracted by seizing the arm—the skin was already peeling. As soon as the foetus was removed the intestines,

¹² Dobbert's case, where a foetal sac lay in Douglas's pouch, can be explained in this manner. The tube opened into the sac, which suppurated and discharged into the rectum.—Veit, *Centralbl. f. Gynäk.*, March 28th, 1891, p. 258.

¹³ *Zeitschrift f. Geburtsh. u. Gynäk.*, vol. xxi, part ii, 1891, p. 498.

¹ J. and A. Churchill. London. 1885.

Date.	Operator and Locality.	Hospital or Private House.	Age.	No. of Previous Labour.	Cause of Difficulty.	Available Pelvic Space.	Height of Woman.	Time in Labour before Operation.	Condition of Woman at Time of Operation.	Result to Woman.	Result to Child.	Cause of Death in Woman.	Treatment of Pedicle.	Dressing, ordinary or Listerian.	Duration of Operation.	Special Notes.
1885 June 8	Dr. Godson, London.	Hospital.	23	Primipara	Rickets	c.v. 2½ inch	4ft.	4½ hrs.	Peritonitis already commenced	Died in 60 hrs.	Female still-born, skin peeling	Peritonitis	Kept out with Kœberlé's <i>serre-nœud</i> and long pin, also silk ligature	Listerian with spray, no drainage	45 min.	Intestines escaped during operation, and shortly before death from flatus distension.
1891 Feb. 17	"	"	41	"	"	c.v. 2 in.	4ft. 7½ in.	22 hrs.	Favourable	Recovery	Female living	—	Stitched to parietal peritoneum, Kœberlé's <i>serre-nœud</i> and one long pin	Listerian without spray, no drainage	47 min.	Recovered without a bad symptom, temperature never rising above 98.8°. Pedicle separated on the tenth day. Patient sitting up on twentieth day.

greatly distended by flatus, escaped from the abdomen, and it was with the greatest difficulty that Mr. Langton returned them. The uterus was removed and Kœberlé's *serre-nœud* and one long pin applied, instead of two short ones, as in my previous operation, described in the BRITISH MEDICAL JOURNAL of January 26th, 1884. Eucalyptus gauze dressing was applied, then broad strips of adhesive plaster, cotton wool, and a flannel binder. At 5.10 the patient was placed in her bed. The foetus, a female, weighed 7 lbs. At 10 p.m. the pulse was 120; temperature 102° F.; respirations 28. Abdominal pain complained of; some rusty sputa had been expectorated. Urine 3x drawn off; specific gravity 1015; acid; a cloud of albumen.

June 9th, 10 A.M. A good deal of sanious discharge from vagina. Has vomited several times a dark green fluid. Temperature 102.8. Brandy 3ss and beef essence 3ij administered *per rectum*. 12 noon. Temperature 104° F. 3 P.M. Abdomen dressed under spray; much distension and tympanites. Some offensive discharge from pedicle, and edges of wound slightly inflamed. *Serre-nœud* tightened; iodoform dusted freely over it.

June 10th, 10 A.M. Has been very sick all through the night. Temperature 104.8°; pulse 144; respirations 36. Abdomen dressed under spray. Redness not increased; still some offensive discharge around pedicle; distension greater; rectal tube had been passed to allow escape of flatus, and afterwards nutrient enemata given every five hours.

From this time vomiting continued frequently. At 4 A.M., June 11th, two of the sutures in the abdominal wound gave way from the great distension, and a large coil of intestine escaped. The patient died at 5.30 A.M., sixty hours after the operation.

At the *post-mortem* examination on the same day there was found to be general peritonitis. The pelvis was removed, and is now in the museum of St. Bartholomew's Hospital. The conjugate was found to measure 2½ inches.

The next case is that of M. T., aged 41, married March 24th, 1890. She was admitted into the City of London Lying-in Hospital on February 6th, 1891, as she expected her labour in a few days and was very nervous about it. She was taken with pains on February 16th at 6 P.M.; at 11 P.M. the liquor amnii was discharged, but the os was not at all dilated. At 2 A.M. 15 minims of tr. opii were given, the os being then about the size of a shilling. The patient slept for two or three hours. At 9 A.M. Dr. Yarrow, surgeon-accoucheur to the hospital, saw her. He found the vertex presenting at the brim in the first position, the os uteri dilated to the size of a five-shilling piece, and great pelvic deformity, preventing the head from descending. He therefore sent for me to see the patient with him. I found a rachitic pelvis with a very prominent sacrum and a conjugate of about 2 inches. I decided to perform Porro's operation as soon as the necessary preparations could be made. A room containing only one bed was prepared, and the carbolic spray was used to disinfect it, but discontinued

when the operation commenced, at 3 P.M. Dr. Yarrow administered chloroform, and I was assisted by my friends, Mr. Willett and Mr. F. C. Wallis. Previous to the operation the temperature of the patient was 98° and pulse 70. The uterus was opened by the same method as in my other two cases. The child was extracted without difficulty, living. The *serre-nœud* and one long pin were applied, and the uterus removed. No silk ligature was used as in the other cases, but the peritoneum of the pedicle in its upper part was carefully stitched to the edges of the peritoneum in the abdominal incision, so as to shut off all communication with the peritoneal cavity. Silkworm gut sutures were employed for the abdominal wound, one being placed below the pedicle as usual. Iodoform gauze dressing was used, and a flannel binder. The operation took just over three-quarters of an hour. The child, a well-nourished female, weighed 7½ lbs. After the patient was placed in bed 20 minims tr. opii, with an ounce of starch, were administered *per rectum*. There was no sickness. The enema was repeated two hours later. At 9 P.M. I found the patient sleeping—pulse 80, respirations 24. Temperature taken an hour previously 98.4°. 3viii of urine had been drawn off. At 2 A.M. the starch and opium enema was repeated. The patient had a good deal of sleep; there was no shock and no pain. I saw her at 10 A.M.: Pulse 68, temperature 98.4°. I ordered iced milk in small quantities—a dessertspoonful about every hour to be given. At 5.20 P.M. I changed the dressings surrounding the pedicle and tightened the *serre-nœud*.

Next day the dressings were changed at the same time, after which, as the patient said she was very hungry, I allowed her to have a little bread and milk. Her only complaint was a frequent desire to pass water; every five hours it was drawn by catheter.

On February 22nd there was slight sickness and some abdominal distension; a soap and water enema was administered; this had to be repeated in the evening before the bowels were relieved. After this there was no further sickness and the distension subsided. The stump was now cleansed twice daily with sulphurous acid lotion, and fresh dressings applied.

On February 24th all the stitches were removed except those immediately above and below the pedicle. The bowels acted naturally.

On the 27th the pedicle with the *serre-nœud* and long pin came away—ten days after the operation. Urine was now passed naturally; the irritability of the bladder was much less.

On March 2nd the two remaining stitches were removed. The fossa which had contained the pedicle was fast filling up.

Three weeks after the operation the patient was allowed to sit up, and she left the hospital on April 4th, feeling strong and well. Her pulse at no time had exceeded 84, and the highest point her temperature reached was on one occasion 99.8°.

The record of a case as successful as this encourages one to think that Porro's operation is that which should be resorted to when delivery cannot be effected *per vias naturales* without considerable risk to life. There is, however, great difficulty in selecting between it and Säger's modification of the old Cæsarean operation. Having myself had two such satisfactory results with Porro's operation, and seeing no reason why the third should not have been equally successful had the operation been performed twenty-four hours earlier, as it might have been, I have naturally a leaning in favour of it. At the same time I recognise fully the merits of Säger's operation, and its excellent results. In the *Centralblatt für Gynäkologie*, No. 1, 1890, Dr. Säger records his seventh successful case in succession. On the other hand, Professor Breisky, of Vienna, formerly of Prague, and his two assistants have performed eleven Porro operations with no death, and Reidinger, of Brunn, seven with no death. This proves to my mind conclusively that either operation, undertaken under favourable conditions by a skilful operator, may be looked upon as almost certain to be successful. It is, therefore, a mere matter of selection according to one's bias between the two operations.

At first it was advocated in favour of Porro's operation that it possessed the great advantage of preventing any subsequent pregnancy. Since then, however, it has been demonstrated that the same result may be attained in Cæsarean section by cutting off the communication of the Fallopian tubes with the uterus. This is now generally effected by ligaturing near the junction of their outer and middle thirds; but the idea is not a novel one. Dr. Blundell, in a lecture delivered at Guy's Hospital, published in the *Lancet* of November 29th, 1828, says: "To some women impregnation is death; the pelvis is so contracted that without the Cæsarean operation delivery cannot be effected by any artificial means. In such women sterility might be ensured by the division of the tubes, as formerly advised.....If the Fallopian tubes are divided to ensure sterility, a small piece—say of a line or two in length—ought to be removed, lest the divided portions should again fall into apposition, the canal becoming renewed."

But we have not always experienced operators, and patients under favourable conditions, as I gather to be the case from the Italian statistics. Professor Truzzi last year published the results of 59 Porro operations performed in Italy between October 23rd, 1884, and November 24th, 1889, with a mortality of 21=35.5 per cent.; and Professor Calderini, of Parma, has recently recorded the results of 28 Cæsarean operations after Säger, performed in Italy from 1886 to 1890, with a mortality of 10=35.7 per cent.—the two almost identical, but slightly in favour of Porro's operation. It is not fair to compare the whole of the Porro operations and the Säger operations that can be collected together to draw a conclusion as to the superiority of one over the other, for Porro's operation is of earlier date, and there is a great difference between the earlier and the later results. Dr. Harris, of Philadelphia,² states that there were 29 deaths in the first 50 and only 9 deaths in the last 50 operations. In comparing, therefore, with the later operations it would be but fair to take the last 50 (that is, 18 per cent. mortality) instead of the first 50 (58 per cent. mortality)—which, curiously enough, is that I find recorded in a paper read by Dr. Galabin before the Hunterian Society on March 25th—as against 23 per cent. of Säger's.³

I believe that Säger's operation has been performed by much fewer surgeons and by much more experienced men, and generally under much more favourable circumstances. Take for instance Dr. Murdoch Cameron, of Glasgow, who operated on ten patients between April 10th, 1888, and February 16th, 1891, with a mortality of but 1 per cent. His were cases of Cæsarean section and stitching the uterus after his own method, not after Säger's. It would be interesting to know whether Dr. Cameron's cases are included in the Säger statistics. I pass now to the consideration as to which orera-

tion—Porro's, or Cæsarean section with uterine sutures—is likely to be the best in the hands of the general practitioner, inexperienced in abdominal surgery, in cases of emergency; and I give the preference to the former, for it is generally accepted that it is more simple, and can be performed more quickly. Dr. Säger writes that "he does not regard Cæsarean section as a simple and easy operation, and he denies that it can be successfully performed by those not familiar with the anatomy of the parts, and antiseptic surgery." I see no reason why every accoucheur should not possess a Kœberlé's *serre-nœud* and a long pin: a common knitting needle will do very well. [Dr. Godson here showed one sent him some years ago by Professor Porro himself as that which he used.] But if the accoucheur has not a *serre-nœud*, a bit of elastic tubing will answer the purpose quite well. I observe in the discussion that ensued at the Hunterian Society, after Dr. Galabin's paper, that Dr. Horrocks said he had found it very difficult to apply the elastic ligature. If a piece of wire be passed through it before it is applied, which can be afterwards withdrawn easily, this difficulty should be got over. This is a very useful hint, which was given me by Mr. Lawson Tait, to whom I believe it was told by a general practitioner who had performed the operation.

I hold the strongest opinion that every accoucheur should be prepared to perform Porro's operation, and not resort to craniotomy as a matter of course, in a case of pelvic obstruction in which delivery cannot be effected by the forceps, and especially when the fœtus is living. I believe that Porro's operation is less dangerous to the mother than difficult craniotomy. Only recently I was called to a primipara to assist two excellent practitioners who had used one forceps after another, and pulled, first one and then the other; the cervix uteri had been extensively lacerated, but the head had never moved. The fœtus was dead. I managed to deliver the woman by craniotomy, but the extraction was very difficult; after I got the head out I thought I should never have extracted the shoulders. It was a large fœtus. I made out the conjugate to be about 3 inches. This woman would probably have recovered had abdominal section been performed early; as it was she died on the fourth day. It is very sad to think that here a woman and a fine child were sacrificed, both of whom might have been saved. I do not for a moment mean that Porro's operation or Cæsarean section should be undertaken impetuously or without proper consideration and preparation, but I am convinced that it should often be undertaken by the general practitioner in place of craniotomy, and I hope this will in course of time be recognised by every accoucheur being prepared to perform the operation in case of need.

TWO CASES OF AMPUTATION OF THE UTERUS DURING LABOUR.

Read in the Section of Obstetric Medicine and Gynæcology at the Annual Meeting of the British Medical Association held in Bournemouth, July, 1891.

By JAMES MURPHY, M.A., M.D.,

Surgeon to the Sunderland Infirmary; Assessor in Clinical and Operative Surgery University of Durham; President-elect North of England Branch of the British Medical Association.

CASE I. Complete Removal of the Uterus during Labour at Term.—At 9 P.M. on Wednesday, December 12th, 1888, my friend Dr. Norie asked me to see with him a woman, aged 33, the mother of four children, who had been in labour at term since the previous Sunday, under the care of a midwife; and as no advance had been made in the labour, and as the woman was getting exhausted, his advice had been sought. Finding that she had cancer of the cervix, he kindly invited me to see the case. On arrival at the house I found the patient in a very great state of exhaustion, she having had severe hæmorrhage for some days, and having strong labour pains, which she informed me she had endured for four days. The os would admit the tip of the finger, and through it the membranes could be felt strongly protruding with each pain. The whole cervix was a hard solid mass of cancer, which seemed to encroach on the body of the uterus, but the vagina was quite

² BRITISH MEDICAL JOURNAL, March 30th, 1889.

³ These figures are, of course, taken from the whole of the published cases, and show much the same rate of mortality as given by Dr. Harris recently in the *American Journal of Medical Sciences*:

Porro operations ... 272, with 150 deaths=55.1 per cent.

Säger " " 212 " 50 " =23.5 "

Mr. Lawson Tait's protest—with which I agree—is that it is not fair from these mere figures to draw conclusions as to the merits of the two operations.