THE FIRST CAESAREAN SECTION UNDER GENERAL ANAESTHESIA

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Introduction

This paper owes its origin to an enquiry forwarded to me from the AAGBI in July 2001. It came from Dr. Akaki Bakradze, an obstetrician in Georgia, in the Caucasus, not the United States. He was preparing a talk about the history of Caesarean section, and asked for information about the earliest to have been performed under general anaesthesia. I was surprised to find that I could not answer this off the top of my head, so I did what we all do in such circumstances and referred to Duncum; and I was even more surprised to find that this very important event isn’t even mentioned by her, nor is it in any of the histories of obstetrics that I have been able to look at; so what I thought would be very easy to answer turned out to require a considerable amount of research. When I did finally turn it up I put a brief note on the HAS web site for the record. That was ten years ago, and I intended to develop the subject at the time, but other things intervened.

The Problem

Until the end of the nineteenth century, or perhaps even later, childbirth was a hazardous event in the best of circumstances; but for women with severe deformity of the pelvis, usually from the all too prevalent infantile rickets, pregnancy could be a death sentence. At best the woman’s life might be saved by an early induced abortion, at worst by the intra-uterine instrumental destruction of the child and its extraction piecemeal. As medical students in the early 1940s we still received descriptions of the use of cranioclasts, cephalotribes, sharp and blunt hooks, and decapitation saws, instruments designed to perforate, crush and remove the foetal skull. But oddly enough, Simpson, who had so strongly pressed the case for pain relief in labour, took a very illiberal approach towards such women, who, he said, should never be married, and had allowed their lust to get them into this life-threatening situation. He would never induce an abortion for such a woman; she should take her chance of Caesarean Section.

The Patient

The patient was Sarah Bartlett, a dress-maker, unmarried, of mild disposition, only four feet one inch in height and much deformed, as a result of childhood
rickets. She lived in lodgings at 31 Upper Rosoman Street, Clerkenwell. In the two published accounts she is said to be 27, or 37, years of age; independent documentary evidence confirms the latter, surprisingly, because in the *London Medical Gazette* it is stated that on 7th April, ‘while under temporary excitement, she had connexion once with a young man lodging in the same house.’ She had no idea that she might be pregnant when she consulted a doctor on Saturday 3rd October 1846, Mr. Philip Jolin, of 22 Coppice Row, Clerkenwell, complaining of pain and swelling of the abdomen, although menstruation had ceased six months previously. She had been attending the Finsbury Dispensary with these symptoms for five months, without any benefit. Mr. Jolin explained the need to examine her, and arranged to see her in bed in her lodgings in the presence of her landlady, which he did four days later. Auscultating the abdomen with a stethoscope he distinctly heard a foetal circulation, but in the presence of the landlady he said nothing, only prescribing a tonic and arranging for her to come to his surgery in three days time to report on her progress, which she did. She said that she felt much better, had slept well for the first time in many weeks, and wished to continue with the medicine; but Mr. Jolin now raised the question of pregnancy, which at first she denied. So he explained to her the seriousness of her situation, and the necessity for him to make a vaginal examination to determine whether in view of her external deformity she would be able to effect a natural delivery. This must have come as a great shock because she was intensely anxious about her reputation, and it took several days for her to come to terms with her situation and consent to an internal examination; but this was done on 23rd October, when it was found that the antero-posterior diameter was only one and one third inches, as against the average normal of four. She was immediately told that the only hope for her survival was a Caesarean section, and she readily agreed to put herself into the hands of the doctors.

Mr. Jolin recommended Mr. Skey, Assistant Surgeon at St. Bartholomew’s Hospital, and with Miss Bartlett’s consent arranged for him to see her at Jolin’s surgery, which he did on 3rd November, one month after the initial consultation, and agreed for her to be admitted to St. Bartholomew’s two days later. Mr. Jolin met her at the entrance to the hospital on 5th, took her up to Lucas Ward, and saw her settled in. Two days after admission she was examined in the presence of Messrs. Skey and Jolin by three leading obstetricians, Dr. Edward Rigby and Dr. Prothero Smith of Bart’s, and Dr. Robert Fergusson, accoucheur to the Queen. The diagnosis and proposed management were confirmed; embryotomy was considered and dismissed because of the extreme narrowness of the pelvis. The plan, in the interest of her own social situation, was to keep her in hospital; and, in the interests of the child, to allow the pregnancy to proceed to term, and operate as soon as she started in labour. But the truth was that she did not want
the child, and would have preferred to lose it. Mr. Jolin visited her from time to time, and observed that she was in good health and spirits; and so she remained in hospital for some ten or eleven weeks, at no expense to herself, until the morning of Monday, January 25th 1847, when she went into labour.

**The Progress of Labour**

Labour commenced at about twenty minutes to three in the morning, and two hours later Mr. Haig, the house surgeon sent a message to Mr. Skey, telling him that the membranes had ruptured. Mr. Skey arrived at the hospital at twenty past five, and made an internal examination. She was having strong contractions every two minutes, but the os was indistinct, flabby, and soft. Things had changed greatly since she first presented – general anaesthesia had been introduced, but there was anxiety that ether might relax the uterus and interfere with postpartum retraction, so she was given a few breaths to inhale to test its effect, and it seemed that the contractions may have slowed. At six o’clock Mr. Rigby arrived and made an internal examination also. It was decided to wait for one hour.

**The Report**

There was a report of the operation, slightly inaccurate in one or two respects, in the *London Medical Gazette*. A much fuller one appeared in *The Lancet*, the absence of an author’s name indicating that it had been written by one of the journal’s reporters; and the spreading news of the operation had evoked such interest that there was even a short ‘trailer’ in the issue of the previous week!

In fact *The Lancet*’s report was so full that it set me wondering why there was so much detail. Then it suddenly dawned on me that the Editor, Thomas Wakley, must have become aware that he had missed the scoop of the century at University College Hospital on 21 December 1846 by not having a reporter in the operating theatre. Consequently no contemporary eye-witness account of Liston’s operation or of the anaesthetic exists, and as a result, as we are well aware, there is no definitive record of such basic information as who administered the ether, and who was in the theatre at the time. The reason for not sending a reporter may have been that eight years previously Wakley had been personally instrumental in exposing as frauds two young girls, the Okey sisters, who were being promoted by John Elliottson, physician to UCH, as subjects extremely susceptible to hypnotism, and he must have decided that Liston’s trial of ether was going to be a similar fiasco; so no reporter was sent.

We know from William Squire’s Memoir that Liston had the incident with the Okey sisters very much in mind that weekend, and was so concerned to avoid any risk of a repetition of that failure, and consequently being attacked by Wakley, that he spent most of the preceding day repeatedly testing and checking
the apparatus. After Liston’s successful demonstration *The Lancet* carried reports of operations without pain every week from the main London and Provincial hospitals, and with the mounting numbers, and the ensuing correspondence, Wakley must have come to realise the importance, the historic importance, of what he had missed; so he must have been determined that the momentous and historic event that was to take place towards the end of January should receive full coverage. As a result we know the name of every person of note who was present in the theatre, we know who administered the ether, even who monitored the patient’s pulse, and we have a detailed step by step account of the operation. Apart from Skey, Tracy, Haig the house surgeon, and Jolin her own doctor, we have the names of nine practitioners who were present. Five were, as they used to be called until the specialty had its own College, obstetric physicians, who, as the title implies, while they applied forceps, did not operate. Three were Skey’s colleagues from the staff of St. Bartholomew’s, two physicians and one assistant surgeon, and one who would today be called a paediatrician.

**Dramatis Personae**

Frederic Carpenter Skey (1798-1872). MRCS 1822; FRCS (Hon) 1843; FRS 1837. Assistant Surgeon to St. Bartholomew’s Hospital 1827, Surgeon 1854, and Lecturer on Surgical and Descriptive Anatomy. He held other appointments, and was the author of various publications. President RCS 1863. CB. 

![Fig. 1 Frederic Skey](image-url)
Samuel John Tracy (1813-1901). Administered the ether – he performed the duties of dentist to Bart’s for ten years before gaining the qualification MRCS in 1849, after which he was appointed Surgeon Dentist in 1850. He was quick to introduce ether anaesthesia to the hospital, and described a hookah-like inhaler of his own design. In 1850 he claimed to have given some 7000 anaesthetics for dental extractions without mishap. He held other dental appointments. He became LRCP Edin. in 1860.  

Fig. 2 Tracy’s ether inhaler

Philippe (Philip) Jolin (1802-1862). Born in St. Helier, Jersey, was apprenticed to an apothecary in London from 1830 to 1835. Passed the examination and became a Licentiate of the Worshipful Society of Apothecaries on 13 February 1845. Set up as a general practitioner at 22 Coppice Row, Clerkenwell. About 1844 he had a son, Philip, with his housekeeper, Harriet Tomlin. Died in July 1862. He seems to have been a good clinician and a considerate and kind doctor. According to the Jolin family records, unless it is a case of mistaken identity, he also had a wife and six children in St. Helier.

Edward Rigby MD Edin. 1825, FRCP Lond. 1843, very distinguished son of a distinguished father. Senior Obstetric Physician to the General Lying-In Hospital; Physician to the Hospital for Women, Red Lion Square; Examiner in Midwifery and the Diseases of Children at the University of London, Lecturer in these subjects at St. Bartholomew’s Hospital, formerly at St. Thomas’s. Many publications, including translation of Naegele on The Mechanism of Parturition, and new edition of William Hunter’s Anatomical Description of the Human Gravid Uterus. Undoubtedly the leading obstetrician in the country.
Robert Ferguson MD. Physician-Accoucheur to Her Majesty the Queen; one of the censors of the Royal College of Physicians; Physician for the Diseases of Women and Children, and late Professor of Midwifery, at King’s College Hospital.  

Sir James Eyre MRCS 1814, MRCP 1831, MD Edin. 1834; Physician to the Women and Children at St. George’s and St. James’s Dispensary.  

Protheroe Smith MD Aberdeen, MRCP, Obstetric Physician, Assistant teacher of Midwifery at St. Bartholomew’s Hospital; several other hospital and dispensary appointments.  

Clement Hue, FRCP, Senior Physician to St. Bartholomew’s Hospital; a trustee of the Foundling Hospital.  

Eusebius Arthur Lloyd MRCS 1817, FRCS (Hon) 1843; Assistant Surgeon, St. Bartholomew’s Hospital.  

Thomas Wormald MRCS 1824; Assistant Surgeon to St. Bartholomew’s Hospital; late Surgeon to the Foundling Hospital.  

Henry Jeaffreson MD Cantab. 1838, FRCP; Assistant Physician to St. Bartholomew’s Hospital.  

Joseph Moore MD Glasgow 1814, MD Edin 1815, MD Paris 1818. MRCP. Obstetric Physician, several hospital appointments.  

John Bemersyde Haig MRCS 1842. House surgeon to St. Bartholomew’s Hospital (second year).  

**The Operation**  

At twenty minutes to eight Miss Bartlett was carried downstairs on a stretcher, and placed on the operating table.  

Mr. Tracy administered ether slowly for seven or eight minutes, using the inhaler of his own design. The intention was to anaesthetise her to loss of consciousness, and, to minimise the effect on the uterus, to operate while the ether was wearing off, but she was not completely anaesthetised at the start of the operation. She was catheterised, and Mr. Skey made a nine inch midline incision down to and through the linea alba, starting two inches above the umbilicus. As soon as the abdominal cavity was open the omentum protruded, and was replaced. Mr. Skey then inserted a long director of his own design with a bulbous end, and cut down on it, laying open the
peritoneal cavity. He passed his hand round the sides of the uterus and identified the centre line, which he incised longitudinally until he had opened the cavity, then inserted a deeply grooved director and extended the incision to six inches. He ruptured the membranes with his fingers, and the foetus immediately presented, with the cord in front and the head downwards. He extracted the child, a girl, and handed her to a nurse sitting at the foot of the table; then, ‘by a slight internal movement of his fingers,’ he removed the placenta and membranes, which came away without any difficulty. This was five and a half minutes from the start of the operation. The problem now was, in modern parlance, that there was no viable exit strategy. Accumulated experience showed that suturing the uterus resulted in a fatal inflammatory reaction along the suture line. Also, there was no routine method of closing the abdomen. Intra-abdominal operations were very few and far between; this may well have been Mr. Skey’s first. It was certainly his first Caesarean section; three years later he was described as the only surgeon in the metropolis who had performed the operation on a living patient.

Although the uterus contracted rapidly there was much bleeding. Mr. Skey applied pressure, and poured a jugful of cold water, of unknown origin, over it. Mr. Haig, remarking that he could feel the aorta pulsating, continued to squeeze it. After being observed and compressed for about half an hour, when the obstetric physicians considered that it had contracted to its natural immediate post-partum size, it was returned to the abdominal cavity, the incision unsutured, still oozing small quantities of blood. During this time Miss Bartlett was given some secale cornutum, an ergot preparation, but vomited it up.

After consulting with his assembled colleagues Mr. Skey inserted a single suture across the middle of the wound, after which it appears, although the description is obscure, that an interrupted bandage was applied, through which he sewed up the wound with eleven sutures. Over this he applied broad strips of sticking plaster, finishing up with a large pad of cotton wool and an eight-tailed flannel binder.

Miss Bartlett was then carefully lifted onto her bed, wrapped in a warm blanket, and carried back to her room. She vomited, and was somewhat exhausted, but not extremely so. Mr. Skey prescribed half a grain (30 mg) of morphine, a large dose for such a small woman even by mouth. During the operation her pulse was monitored by Dr. Jeaffreson and Mr. Jolin. It was good throughout, her face was tranquil, and had its natural pallor. She did not cry out, only expressed a wish to be back in bed. In the opinion of the reporter Mr. Skey had performed the formidable operation with the utmost self-possession, dexterity, and skill; it had taken one hour.
The Anaesthetic

Although the contrary was asserted in some accounts of the case, including that in the *London Medical Gazette*, *The Lancet*’s reporter noted that the inhalation of ether vapour had been only very partially successful. Apparently the reporter did not understand what Tracy was trying to do, which was to maintain a level plane of analgesia without loss of consciousness with a vaporizer that was not up to the requirement that it supply a steady flow of ether vapour in air at a constant concentration. But even if Tracy’s aim had been for full surgical anaesthesia he would have found this difficult to achieve, because his inhaler embodied all the features that John Snow condemned – the vaporizing chamber was of glass, a poor conductor of heat, free passage of air was obstructed by an ether-soaked sponge, and the breathing tube was far too narrow. ²⁴

Postoperative Progress

At one o’clock she was given some brandy and egg, then slept for an hour or two. Lochial discharge mixed with some arterial blood became apparent. She complained of a great deal of continuous severe pain, relieved by suprapubic pressure. At six she was given some beef tea, and at ten another half grain of morphine, after which she slept. The following morning she was pale, perspiring, anxious, with a weak and very rapid pulse, and great thirst, drinking freely of toast-and-water. In the afternoon she became restless and nauseated, with very great abdominal pain, relieved when Mr. Skey loosened the dressings. She drank iced water copiously. The question of blood-letting was considered, and rejected by both Mr. Skey and Dr. Rigby; being puerperal she was now handed over to the care of the latter. She was ordered six grains of calomel, one grain (60 mg) of morphine, and an enema.

By early afternoon she was restless and very thirsty, her breathing was quicker, her pulse rapid and at times intermitting. She was ordered a beef-tea injection with brandy. She was suffering intense abdominal pain, so severe as to cause her to throw herself about and try to get out of bed. She gradually sank, and died at eight o’clock in the evening, thirty six hours after the operation.

Autopsy

The abdominal incision was quite ununited. Not one of the eleven sutures had gone through the peritoneum. The cut edges of the uterus were in direct contact with the abdominal muscles, the cavity being quite open. There was some peritonitis, but not great nor severe. After removing the pelvic viscera the true conjugate diameter was found to be barely more than one inch.
The Child

She was a fine healthy girl of average size. She was put in a warm bath and started to cry. In Mr. Jolin’s opinion Miss Bartlett’s pulse started to flag and she started to sink as soon as she heard the cries. When the child was put to her breast she became flushed, and the child’s cries seemed to distress her. Being unmarried, and so very concerned about her reputation, for she must have been well-known in her local community, the situation she found herself in must have been devastating. After she died her sister told Mr. Jolin that she was desperate to conceal the birth of the child and had convinced herself that it was dead, letting it be known that she was going in to hospital to have a tumour removed. She had asked her sister to be at the hospital at the time of the operation, and to promise, if the child were born alive, to take it to her home and suckle it, having a young child of her own, and to tell her husband that it was a child she had agreed to nurse. This the sister refused to do, being anxious not to jeopardise her own domestic situation should her husband discover the deception. This refusal, and her dire situation should both she and the child survive, weighed heavily on Sarah’s mind. Mr. Jolin was convinced that this was the main cause of the fatal termination, that she had no will to live. After her death the child was handed over to the Foundling Hospital.

The Foundling Petition

To gain admission to the Foundling Hospital a Petition had to be submitted, almost always by the mother. The Trustees gave priority to respectable women who had found themselves in the unfortunate situation of Miss Bartlett, with the aim of relieving them of the burden of the child, and allowing them to return as soon as possible to their previous self-supporting occupation. The Trustees were determined that the hospital should not become the dumping ground for the children of prostitutes; in spite of the name by which it was generally known, foundlings were not admitted. The records of the Foundling Hospital are in the London Metropolitan Archives, which is also in Clerkenwell, and I was lucky enough, when I had almost given up, to find the Petition for the admission of Sarah Bartlett’s child.

This sad document, a story of seduction and abandonment after a promise of marriage, was submitted by the Steward of St. Bartholomew’s, John Thomas Weston on 29th January; and the Trustees unanimously accepted the child for admission on 30th. There the trail goes cold. I could not find a child in the Admissions or Baptismal Registers whose details even approximated to Baby Bartlett’s, so it has not been possible to see whether she survived to progress to the Apprenticeship Register.
Fig. 3 The Petition.

To the Governor and Committee of the Hospital for the Maintenance and Education of Pauper and Destitute Young Children.

The Petition of John Pi' Watts, Steward of St. Bartholomew's Hospital, London.

Humbly Sheweth.

That on the 5th of November 1846, Sarah Barthett, aged 25, being pregnant and afflicted with anomia, was admitted into St. Bartholomew's Hospital, for the purpose of being delivered of a child by the customary operation, which ensued.

And within six hours she was delivered of a female child, the birth of which she only survived 18 hours, and is now lying dead.

[Handwritten text continues with various details and signatures]
Ethical Considerations

Although Skey had assembled a galaxy of supporting specialists, not everyone was in agreement with the management of the case. In a letter to *The Lancet*, ‘Scrutator’ asserted that labour should have been induced immediately, at six months, when the diagnosis was made; there was room at the sides of the pelvis to allow the head of a six-month foetus to be perforated and extracted with ease and safety. 27 In a report to the Royal Medical and Chirurgical Society about the second Caesarean section performed by Mr. Skey, in 1850, Dr. Charles West, Physician-Accoucheur to Saint Bartholomew’s Hospital, 28 wrote, ‘Agreeing, as
I do, most cordially, with the rule laid down in British Midwifery, which gives the mother’s life a claim paramount to every other consideration, it cannot but be with a feeling of deep regret that I am compelled to add another to the long list of failures of this operation. Although West’s patient, married, had been under the care of her general practitioner from the fifth month of pregnancy, she did not present any external appearance of skeletal abnormality, and it was only after she had gone into labour that she was found to have an extremely deformed pelvis, with a conjugate diameter of about one inch. So in this case the surgeon’s hand was forced, but this did not apply to Sarah Bartlett. The management proposed by ‘Scrutator’ would have been in accord with the rule cited by West; but it seems that ‘Scrutator’ had not read the report in the London Medical Gazette, where it is clearly stated that embryotomy had been considered and dismissed.

Conclusion

That Miss Bartlett, a patient in the charitable hospital system of mid-19th century Britain, received care, consideration, and medical attention which far exceeded what she would have received in the National Health Service today, can be explained by the summing up of The Lancet’s reporter, who concluded, ‘Altogether, the present case, though it terminated fatally, is one of the most interesting that has ever occurred in obstetric history.’

Acknowledgements

I am grateful to Dr Henry Connor, Prof. Roger Maltby, Hazel Bailey of the Foundling Museum, the staff of the London Metropolitan Archives, Sophie Cawthorne of Bart’s Archives Dept., Elaine Garrett, Librarian, Royal College of Obstetricians and Gynaecologists, Professor Pam Lieske of Kent State University USA, Professor Peter Vinten-Johansen, Dr Carol Homden, Chief Executive of Coram, and to the anonymous Lancet reporter, whose humanity led him to pursue Sarah Bartlett’s story beyond its usual clinical bounds.

Addendum

(Cover) 1847 Petition of The Steward of St. Bartholomew’s Hospital ordered to be admitted unanimously William Curtis V.P. 30/1./47

To the Governors and Guardians of the Hospital for the Maintenance and Education of the Exposed and Deserted young Children – This Petition of John Thos. Weston, Steward of St. Bartholomew’s Hospital, London, Humbly Showeth –
That on the 5th day of November 1846 – Sarah Bartlett – aged 36, being pregnant and afflicted with malformation of person, was admitted into St. Bartholomew’s Hospital for the purpose of being delivered of a child by the Caesarean operation – which serious and critical operation she underwent on the 25th day of January instant. being delivered of a Female living child, the birth of which she only survived 36 hours, and is now lying dead within the walls of the said hospital.

That subsequent to the admission of the said Sarah Bartlett into the said Hospital your Petitioner enquired of her the particulars of her life and of her situation – when she stated to your Petitioner that she had followed the occupation of Dress-making (lastly at No 31 Upper Rosamond Street Clerkenwell) and maintained herself creditably for many years until some time in the years 1846. when she was seduced under promise of marriage by one Henry Paget a working jeweller, of whose residence (at the time of making this statement) she had no Knowledge, and that the said Henry Paget having seduced her, afterwards deserted her –

That your Petitioner has every reason to believe this statement of the deceased to be true, the same having been reported by the said Sarah Bartlett to the Superintendent Nurse of the Ward in which she was placed in the said Hospital, and confirmed for the most part by a Mrs Burnett a sister of the deceased. –

That the said Sarah Bartlett’s relations are poor and appear unable to maintain the said child –

That Saint Bartholomew’s Hospital is extra Parochial –

Your petitioner therefore humbly prays that under the peculiar circumstances of the case as detailed the said child may be admitted into the Foundling Hospital, and your petitioner as in duty bound will ever pray –

J.T. Weston
St. Bartholomew’s Hospital
29th January 1847

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References


3. Rosoman Street was named after Thomas Rosoman, who owned and developed Sadler’s Wells in the 1730s. It is mis-spelled as ‘Rosamond’ on some maps. A very short segment of what was originally a very long street remains, and in the northward continuation there are still three Victorian houses which give an idea of what Sarah Bartlett’s lodgings may have been like. At the time of writing, a one-bedroom flat in one of them was on sale for £600,000!


5. Uncertainty about the length of human gestation was highlighted by a footnote pointing out that ‘It is worthy of remark that the full period from intercourse (to the onset of labour) was here 293 days.’

6. Coppice Row was immediately south of Mount Pleasant, and was incorporated into Farringdon Road when it was cut through and developed during 1845-46. Crossing the road from Rosoman Street would have been a muddy experience until the work was completed.

7. I have not been able to discover the mechanism for calling senior staff in for emergencies before the days of the telephone, an eventuality that was in any case probably very uncommon. Possibly medical students were used as messengers.

8. St. Bartholomew’s Hospital: Caesarean Operation performed by Mr. Skey. *London Medical Gazette* 1847; 39: 212-213: Hospital Reports: The late case of Caesarean operation performed by Mr. Skey. *The Lancet* 1847; i: 139-140.


14. The family tree for Philippe Jolin and Harriet Tomlin (Jolin Chart 0406) will be found at http://web.ukonline.co.uk/j/jolin406.htm

15. The Royal College of Physicians has recently acquired Ferguson’s diaries. I am grateful to Dr. Henry Connor for examining them; unfortunately they do not cover the period of this operation.

16. I am grateful to Henry Connor (personal communication) for additional and very entertaining information about the life and career of Sir James Eyre. Operating theatres were lit by skylight, and elective operations were performed around noon to early afternoon. Sunrise in London on 25\(^{th}\) January 1847 was at 0749 hrs. Gas lighting was not introduced to Bart’s until 1849, and then only one point per ward over the sister’s table. I have not been able to determine how the operating team could see what they were doing.

17. Tracy, S.J. Apparatus for the respiration of ether vapour. *London Medical Gazette* 1847; 39: 167. In a later letter (LMG 1847; 39: 258) Tracy mentioned that he had used his inhaler during the Cesarean operation.

18. We need to remember that apart from the absence of asepsis, most of the everyday surgical instruments, such as tissue forceps, had not yet been invented. In 1847 Spencer Wells was a surgeon in the Royal Navy, in Malta.


20. West, C. Account of a case in which the Caesarean operation was performed; with remarks on the peculiar sources of danger attendant on the operation. *Transactions of the Medico-Chirurgical Society* 1851; 34: 61-88.

21. The use of an ergot preparation by midwives to speed up labour was mentioned in a publication as early as 1582. However it was first brought to medical attention in 1808 by John Stearns in the United States, but it fell into disrepute for a while when his warning against its use in obstructed labour was ignored. There is an account of secale cornutum and its mode of preparation and use in Christison’s *Dispensatory*, 1848, 409-415. For a full history of ergot and the unravelling of its alkaloids, see Sneader, S. *Drug discovery: the evolution of modern medicines*. Chichester, Wiley, 1985, 105-109.
22. Not until 1882, after Lister’s work on the sterilization of suture materials, was the uterus sutured after a Cesarean delivery, by the German surgeon Max Sänger (1853-1903), whose pioneering series established the procedure.

Examination of successive editions of textbooks of operative surgery shows that the practice of closing abdominal incisions in layers was gradually adopted in Great Britain between 1880 and 1910.


25. The newborn were immediately baptised, given a new name and a number, and sent out to a wet nurse. They were brought back to the Hospital at the age of three, taught ‘the three Rs’, and prepared for apprenticeship. The transcript of the Petition is reproduced by permission of the Thomas Coram Foundation for Children (Coram) / London Metropolitan Archives.


27. West, C. Account of a case in which the Caesarean section was performed; with remarks on the peculiar sources of danger attendant on the operation. *Transactions of the Medico-Chirurgical Society* 1851; 34: 61-88, especially .

28. I have not been able to find any mention of a British Midwifery protocol in histories of obstetrics, nor in contemporaneous textbooks.