

Ephraim McDowell and the first successful elective laparotomy

I occasionally carry out the interesting exercise of asking a group of my medical students if they can guess the date of the first successful elective laparotomy, the name of the surgeon who performed the procedure and where it took place. After a long and profound silence, someone might suggest 'around 1870 or 1880', guess at some well-known name, such as Joseph Lister (who, in fact, never performed a laparotomy), and opine that the venue must have been one of the great British teaching hospitals or a famous continental clinic. None of these could be further from the truth – the place was Danville, Kentucky, the surgeon Ephraim McDowell and the date 1809 – just 200 years ago.

McDowell was born in 1771 in Virginia. When he was 13 years old, the family moved to Danville, the first capital of the state, where his father was appointed judge, and which, at that time, 'had upward of 150 homes and some tolerably good buildings'. After a period as apprentice to a GP, Ephraim spent 2 years studying anatomy and surgery in Edinburgh, and returned to Danville in 1795 as its first surgeon. He soon had an extensive practice, which covered hundreds of miles of what was then frontier territory – a call could mean a long journey on horseback, with both Indians and wolves as very real dangers to the traveller.

On December 13 1809, McDowell was called to see Mrs Jane Todd Crawford, aged 46 years and mother of five children, living some 60 miles from Danville in a log cabin. She believed herself to be in a late stage of pregnancy and indeed to be in labour. McDowell found the abdomen to be considerably enlarged. He wrote 'on examination per vaginam I found nothing in the uterus, which induced the conclusion that it must be an enlarged ovarium ... I gave the unhappy woman information of her dangerous situation. She appeared willing to

undergo an experiment, if she would come to Danville'. McDowell returned home, no doubt never expecting to see the lady again.

However, the tough country woman hoisted herself onto a horse, balanced her swollen belly on the pommel of the saddle and, a few days later, appeared at his home in Danville!

The experiment was duly proceeded with. The 'operating theatre' was the front parlour, the operating table was the kitchen table and the assistant was McDowell's young nephew, James, who had graduated a few months before at the first American medical school, in Philadelphia, and who had just joined the practice as partner.

The operation was performed without any form of anaesthesia – it would not be until 1845 that William Morton, a Boston dentist, first used ether. Mrs Crawford recited psalms during her 25-minute ordeal. A 9 inch lower paramedian incision was used, the Fallopian tube and the vascular pedicle tied, the massive cystic tumour opened and 15 lb of gelatinous material evacuated, and then the sac, weighing a further 7 lbs, was removed. The wound was closed with interrupted sutures, with the ligature around the pedicle brought out at the lower end of the incision. Within 5 days the patient was up and about, making her own bed, and in 25 days she returned home in good health by the same means as she came; surgeon and patient never met again.

McDowell did not rush into press with this remarkable result – the first elective laparotomy successfully carried out for an accurately diagnosed pathology. Perhaps he was too diffident; perhaps he did not realise the tremendous implications of the case; perhaps he was too occupied in his busy surgical practice to bother about the niceties of publication. Whatever, McDowell waited until he had performed two more successful ovariectomies in 1813 and 1816, before publishing a report in 1817 in the *Eclectic Repertory and Analytical Review of Philadelphia*. Two years later he published a second report in the same journal of two further cases: one was a success but the second patient died of peritoneal

inflammation on the third postoperative day. Although McDowell published no more, he continued his experiments. Between 1822 and 1826 he operated on three more women. In one the ovarian cyst was opened and drained – the patient lived for a considerable time. The second underwent complete excision, the third had to be abandoned because of extensive adhesions.

There is evidence from correspondence that McDowell performed at least twelve operations for ovarian pathology, but no details exist of the later cases. McDowell was tall and physically imposing, erect and with the florid complexion of a countryman. He did not smoke but occasionally indulged in a nip of whisky bounce – whisky with macerated cherries, sugar and spices. At the age of 31 he married the 18-year-old daughter of the first governor of Kentucky. They had six children. He died aged 59 years of 'an acute attack of inflammation of the stomach', possibly appendicitis.

Posthumously, McDowell's contribution was well recognized. In 1879 his remains were removed from the family burial ground to what is now called McDowell Park, marked by a fine memorial shaft in granite erected by the Kentucky Medical Society. The oldest gynaecological society in the USA bears his name and his portrait appeared on a United States postage stamp.

But what of Mrs Crawford? The year after her operation, the Crawford family moved first to northern Kentucky and then to Indiana, where Mr Crawford had a substantial estate and became a representative in the Indiana legislature. Mrs Crawford died at the age of 78 years; her gravestone is carefully preserved and a modern bronze memorial tablet has also been erected.

As a pleasant final note, in 1932 the Kentucky Highway Department designated the road from Green County to Danville the 'Jane Todd Crawford Trial', different now to when Mrs Crawford conveyed her ovarian tumour along it on horse-back 200 years ago! **BJHM**

Conflict of interest: none.

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