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A short history of Obstetric Anaesthesia

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Abstract

The pain of childbirth has afflicted women for generations and the quest to relieve such pain has been pursued throughout history. Dr Ann Whitfield relates the story of obstetric anaesthesia from its early beginnings in ancient times, the introduction of chloroform by Sir James Young Simpson in the 1800s, through to the present day and the controversy over natural childbirth.

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The pain of childbirth has afflicted women for generations and the quest to relieve such pain has been pursued throughout history. Dr Ann Whitfield relates the story of obstetric anaesthesia from its early beginnings in ancient times, the introduction of chloroform by Sir James Young Simpson in the 1800s, through to the present day and the controversy over natural childbirth.

The unique pain of childbirth has been recognised since time immemorial. There are numerous references in the Bible such as Genesis Chapter 3 and there are many other descriptions of attempts by previous civilisations to alleviate this torment. The Chinese gave their parturients opium and alcohol, while the Egyptians in Pharaonic times burnt turpentine near the labouring woman or concocted a vinegar and marble dust mixture to rub on her abdomen. Acknowledging childbirth to be painful and often dangerous, the Babylonians and Greeks before Christ practised goddess-worship and placation with sacrifices. Hippocrates noted that primipara suffer the most pain in childbirth. Many ancient methods were non-pharmacological and seem to us barbaric.

Witchcraft was practised in mediaeval times and in 1591 Eufame McCulzean was burnt to death as a witch in Edinburgh for

attempting to cast her labour pains onto a dog. In the 18th century Mesmer induced a trance-like state in his patients, the forerunner of present-day hypnotism which is occasionally used in childbirth. The introduction of general anaesthesia in 1846 was immediately recognised by James Young Simpson as applicable to childbirth. Simpson was professor of obstetrics in Edinburgh (and senior president of the R.M.S. in 1835), a man of wide interests and with a great humanitarian desire to introduce some form of pain relief for his patients in labour (Figure 1). Hearing of Liston's success in London, using ether for an amputation, he at once obtained a small quantity and used it on January 1st 1847. On January 19th he gave the first obstetric anaesthetic. He continued to use ether during 1847 but was not satisfied with it and began searching for an alternative.

The anaesthetic properties of chloroform were possibly discovered by David Waldie of Linlithgow. He made a pure preparation and promised Simpson a sample. However, a fire destroyed his factory and Simpson ob-

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tained the chloroform from Duncan Flockhart of Edinburgh. At a party in his house in Queen Street the guests inhaled the agent and "were all under the mahogany in a trice", alarming Lady Simpson when she entered the room. Simpson then used chloroform on November 4th, presenting his findings to the Medico-Chirurgical Society on November 10th. However he was subsequently much reviled by members of the medical profession and ministers of religion; Genesis chapter 3 was quoted against him: "In sorrow thou shalt bring forth children". Others accused him of turning the lying-in chamber into a scene of drunken debauchery.

Simpson refuted his critics, interpreting sorrow as toil rather than pain. However, not until 1853, when Queen Victoria requested chloroform for the birth of her ninth child, did its use finally become respectable. The technique became known as *Chloroform a la Reine* and this agent was used in obstetrics until after the second world war.

In 1880, a Russian, Klikowich, described the use of nitrous oxide in labour. In 1933 Minnitt developed a self-administering nitrous oxide and air apparatus which was widely used until 1970. Its successor,

Entonox (50% nitrous oxide in 50% oxygen premixed in one cylinder), was introduced in 1961. Another inhalation agent, Trichlorethylene, was also used for about forty years until its withdrawal in 1984.

Bier performed the first spinal anaesthetic in 1898 and the first epidural, described by Sicard and Cathelin, followed in

1901. Surgeons carried out the early work on regional blocks; indeed Barker wrote "I am doubtful ...of spinals falling into the hands of anaesthetists". Jonnesco, a Hungarian, agreed saying "Anaesthetists are often inexperienced and never responsible".

Nowadays, both techniques are widely used in obstetrics in developed countries and are the responsibility of anaesthetists.

In 1906 'Dammerschlaf' or

Twilight Sleep, was introduced; this was achieved by administering morphine with hyoscine. In a long labour the hyoscine was repeated but not the morphine. Thus the pain returned, but the hyoscine, providing amnesia, clouded the unpleasant memory. In 1913 Gwathmey described the use of colonic ether in oil, which was used until the 1950s.



Figure 1. Sir James Young Simpson, the father of obstetric anaesthesia.

What of present day methods of obstetric analgesia? Opiates are widely used in generous quantities, most commonly diamorphine, morphine and pethidine. Patient controlled analgesia (PCA) methods are now available. The continuous epidural technique was introduced in 1948 by Flowers. Until recently spinals have been bedevilled by an unacceptably high headache rate after delivery; we now have fine 'pencil-point' needles and the problem has virtually been eliminated. Carrie has introduced a combined spinal/epidural technique which allows a rapid onset block with the ability to top up thereafter. Continuous spinal equipment has recently been introduced, with which a fine catheter can be placed in the subarachnoid space. A comprehensive epidural service is now considered mandatory in large obstetric units in Britain. Opiates are used in combination with local anaesthetics in epidural and spinal techniques to enhance analgesia. PCA can also be used epidurally.

In recent years there has been increasing interest in natural childbirth. Evangelists such as Sheila Kitzinger preach against institutionalised, high technology obstetric

care and there have been others including Grantly Dick Read, Lamaze, Leboyer and Odent, who promoted relaxation, psychoprophylaxis and underwater delivery. Klaus, Kinnell *et al* in 1986 described the recruitment of a *doula* (woman's servant) to sit with a patient throughout labour in order to give support and encouragement. They

found that patients attended by a *doula* had shorter labours, a lower Caesarean section rate and a lower oxytocin augmentation rate. Furthermore, their babies required intensive care less often. Transcutaneous Electrical Nerve Stimulation (TENS) is now another popular analgesic method, particularly in the early part of labour. This is achieved with simple equipment operated by the mother to stimulate endorphin release and to block



A drawing of an early inhalational general anaesthetic apparatus.

the transmission of painful stimuli.

In this fascinating story, stretching back over 140 years, we have come a long way, although many women still approach labour with great trepidation. Of all the people mentioned in this review, the greatest surely is James Young Simpson, who had a vision and pursued it, making the relief of pain in childbirth an attainable goal.