A Sesquicentennial Celebration

By Don Caton, M.D.

(Dr. Caton, a member of SOAP, is vice president of the Board of Trustees of the Wood LibraryMuseum. He is author of the forth-coming book "What a Blessing She Had Chloroform: The Medical and Social Response to the Pain of Childbirth from 1800 to 1960." During this year's meeting of the ASA he delivered the Lewis H. Wright Memorial Lecture, "The Influence of the Early Feminist Movement on the Development of Obstetric Anesthesia.")

This year we celebrate one hundred fifty years of obstetric anesthesia. Obstetric anesthesia began on January 17, 1847 when James Young Simpson administered diethyl ether to a woman with a deformed pelvis to facilitate delivery. Within three months he had anesthetized another five patients and published a paper, which described his accomplishment. By September of the same year he had discovered the anesthetic properties of chloroform, the anesthetic that British physicians favored for obstetrics for the next seventy five years. Simpson's most important contribution, however, may have been his outspoken support of obstetric anesthesia. Initially, virtually every other prestigious obstetrician opposed him.

Simpson's technique for anesthetizing obstetric patients was simple. He merely adopted the same crude method then being used for surgery. Simpson placed a cloth over the women's face, poured chloroform onto it until she lost consciousness, and then kept her in that state until she delivered. Often he started the anesthetic early in the first stage of labor. It remained for others to refine Simpson's method and to develop new ones.

Of those who refined Simpson's technique, John Snow had the most impact. Snow, a London physician and a contemporary of Simpson, was also a strong advocate of obstetric anesthesia. Slower to publish than Simpson, he made careful observations on many patients before he described his technique. Before his death in 1858, he had anesthetized more than one hundred women for childbirth.

Snow recognized that obstetric and surgical patients responded differently to anesthesia and he modified his approach accordingly. He realized, for example, that laboring women required less anesthesia. Therefore, he reduced the concentrations of inhaled gas. To obtain better control over depth of anesthesia he recommended using a special inhaler, one that he had designed himself, instead of open drop chloroform. Whenever possible, Snow delayed inducing anesthesia until the second stage of labor. From clinical observation he recognized that ether and chloroform may cross the placenta and affect the child, and that anesthesia in higher concentrations may depress spontaneous contractions of the uterus. Other early advocates of obstetric anesthesia, including Simpson, denied these possibilities. It was Snow, of course, who anesthetized Queen Victoria for each of her last two deliveries. The method that Snow used for the Queen subsequently became the standard method adopted by others.

Despite improvements, physicians remained dissatisfied with ether and chloroform. Apart from their fear of the effects on the child and the uterus, physicians found inhalation agents inconvenient when they were alone and responsible for both administration of the anesthetic and delivery of the child. Consequently they sought alternatives. At one time they even used oral salicylic acid and acetyl salicylic acid. Morphine was available and by 1850 they had the needles

and syringes to administer it by hypodermic injection. Few physicians were comfortable using opioids for normal labor,
however, for fear of its effects on the child and on uterine contractions. Fear of opioids continued among physicians, even after 1914 when C. J. Gauss, a German obstetrician, popularized "Twilight Sleep" among the general public.

The discovery of local anesthesia in 1884 stimulated physicians to explore other options. During the first half of the twentieth century a spate of papers appeared that described the obstetric applications of spinal, presacral, periaortic, and paravertebral blocks. Of these many methods, the only ones to survive were spinal and epidural blocks. During the first half of the twentieth century, obstetricians used spinal blocks extensively for the second stage of labor, as part of a philosophy of practice that favored routine use of an episiotomy and forceps, even for uncomplicated deliveries. Epidural anesthesia became popular after 1940, through the clinical studies of Robert Hingson, the development of plastic catheters, and the discovery of safer, more effective local anesthetic drugs. The recent discovery of pain receptors in dorsal nerve roots sensitive to opioids has increased the usefulness of these blocks.

Dramatic innovations in clinical management should not overshadow the important contributions of basic science. Many improvements in the management of the pain of childbirth were a direct outgrowth of studies of the anatomy and physiology of pain, the physiology of labor, placental transport, drug action, and of descriptions of the physical and chemical environment of the fetus.

Nor should we overlook the contributions of patients. For physicians, the first century of obstetric anesthesia was an era of hesitancy. They resisted using anesthesia for normal deliveries in the belief that childbirth was a natural process and that anesthesia was an unnecessary intrusion. They resisted using any new drugs or techniques until they could prove their safety. In many respects the attitude of nineteenth century physicians resembles that of the Food and Drug Administration today. It was several decades of intense social pressure from patients, not clinical or scientific data, that finally induced physicians to forget their fears and use anesthesia regularly for normal deliveries. In every sense, the progress in obstetric anesthesia for the last century and a half represents a collaboration between physicians and patients.

The exhibit of the Wood LibraryMuseum at this year's meeting of the ASA will celebrate a century and a half of progress in the medical management of the pain of childbirth. It will also honor many physicians and patients, now dead, who contributed to the development of our specialty.

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