HISTORICAL PERSPECTIVE

Irving W. Potter, MD, and His Internal Podalic Version

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Irving White Potter, MD (Buffalo, New York, 1868–1956) achieved fame and notoriety by practicing and advocating internal podalic version and breech extraction to shorten the second stage of labor in otherwise normal vertex presentations. By 1942, he had delivered more than 25,000 babies, the vast majority by version (1).

Potter was not the only "radical" of his era. The movement of birth from home to hospital in major American cities during the early decades of the 20th century facilitated interventions (induction, episiotomy, forceps, cesarean delivery, version) that exposed obstetricians to charges of "meddlesome midwifery" by those who questioned either their motives or their results. Rudolph Holmes, MD (Chicago, Illinois, 1870–1953) was among those who believed that too many procedures were being performed on flimsy indications, often for "the convenience or conservation of time of the operator" (2). His 1921 article, "The Fads and Fancies of Obstetrics," advanced the notion—still pertinent—that the technology of hospital birth had not yielded the expected improvements in maternal and fetal morbidity:

> Is it not a parody on modern scientific obstetrics that each advocate of his special form of interference will proclaim results not in consonance with the experience of experts, will declare the simplicity of the procedure is such that all may do it, no untoward effects need be expected, when in our hearts we know their allegations, probably based upon thoughtless enthusiasm, are most egregiously exaggerated? And when these advocates appear before a scientific body, with their specious claims, all laud their skill, and rarely is one courageous enough to combat the irrational and untenable interference. (2)

The prime targets of Dr. Holmes' invective were Dr. Potter and Joseph B. DeLee, MD (Chicago, Illinois, 1868–1941). Coincidentally, the papers for which they are best known both appeared in the first volume of the *American Journal of Obstetrics and Gynecology* (1920–1921) (3, 4). Dr. DeLee, founder of the Chicago Lying-In hospital, was already one of the most influential obstetricians in the United States when he wrote his controversial paper on prophylactic forceps (4). To protect the fragile fetal brain from prolonged pounding against a rigid perineum, Dr. DeLee advocated delivery by low–mid forceps and mediolateral episiotomy after an arbitrarily long second stage of labor. Although condemned by many of his academic peers, Dr. DeLee's practice became the standard of care in the United States until the 1980s. Because Dr. Potter's approach to obstetrics—unlike Dr. DeLee's—did not survive his long professional career, it is worth retelling as a tale of *fad* (an interest followed with exaggerated zeal) and *fancy* (an inclination formed by caprice rather than reason).

History of Version ("Turning")

Although Dr. Potter was the most zealous proponent of version during the 20th century, his work was anticipated by Edward Garland Figg, MD (Glasgow, United Kingdom, 1815–1902) during the 1850s. Interestingly, however, it is unlikely that Dr. Potter was aware of Dr. Figg before reviewing the literature for his 1922 monograph "The Place of Version in Obstetrics" (5).

Before the widespread availability of forceps during the 18th century, internal podalic version (conversion of any presentation into a footling breech by intrauterine manipulation) followed by breech extraction (version and extraction) was the only method of delivering an intact child in cases of dystocia, malposition, and in emergencies, such as hemorrhage (flooding) and cord prolapse.

During the 1800s, in Britain and the United States, forceps were favored for delivering an infant in the vertex presentation arrested at the pelvic brim. In the presence of disproportion, high forceps procedures were associated with formidable maternal and fetal morbidity. Failed forceps—sometimes after hours of brute force, without anesthesia— necessitated gory destructive operations on the fetus, stirring controversy about performing craniotomy on the living child. In 1847, determined to avoid a mutilating operation, Sir James Young Simpson, MD (Glasgow, United Kingdom, 1811–1870) performed a version and extraction under ether anes-

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thesia—a few months after Dr. Morton had demonstrated the anesthetic properties of ether. After much self-experimentation, Dr. Simpson found chloroform to be more satisfactory than ether, and his name has become associated with the use of anesthesia in obstetrics. Dr. Simpson became a leading advocate of version under chloroform anesthesia in preference to high forceps; his reputation lent credibility to this operation, and to the use of chloroform as the obstetric anesthetic of choice. Dr. Figg was among those who witnessed a version performed by Dr. Simpson. After several failed attempts at delivering an infant using forceps, he consulted Dr. Simpson, who proceeded to deliver a living child by version and extraction within 4 minutes. This was an epiphany for Dr. Figg—he reasoned that if version was so easy in contracted pelves, it should be even easier in normal cases. With perfect logic, he set out to prove his thesis by successfully delivering 55 of 58 babies in vertex presentation by version and extraction. His 1858 article "Turning as a General Rule" provoked a deluge of criticism, much of it vicious and ad hominem—such as Dr. Potter would experience 60 years later (6). In a review of Dr. Figg's paper, Dr. Braithwaite cites a letter from Francis Ramsbotham, MD to Robert Lee, MD (both eminent obstetricians and textbook authors and both opposed to Dr. Simpson's views in the matter of version):

> I never dreamed that any man in his senses would have the hardihood to recommend that all natural case should be artificially converted into footling cases, or to announce that such an interference with nature's ordinances had become in his practice an established rule…The practice advocated by Dr. Figg appears to me…mischievous and dangerous in its tendency… (7)

Dr. Figg dismissed Drs. Lee and Ramsbotham's criticism on the grounds that their theoretical objections—neither had ever performed version and extraction—were trumped by his own successful experience: "I bring forward a formidable ally to my cause in nearly 87 consecutive cases of perfect convalescence in mother and child" (8). Two years later, Dr. Figg published an expanded paper in which he further rationalized his practice of version (9). Dr. Figg was not heard from again in the literature, but the controversy he incited created a short-lived interest in version—most notably the work of John Braxton Hicks, MD on the combined external and internal version (10). Dr. Simpson's death in 1870, the invention of the axis-traction forceps by Etienne Stéphane Tarnier in 1874, and improvements in the cesarean delivery technique during the 1880s and 1890s, once again relegated version to obscurity—until 1916, when Dr. Potter first presented his experience to the medical profession.

The Potter Version

Early in his practice, Dr. Potter employed version for malpositions or as an alternative to high forceps. As his experience grew, he refined his technique and widened his indications—to the point where, after 1920, he delivered more than 90% of infants of his patients by version and extraction early in the second stage of labor.

When Dr. Potter published his book *The Place of Version in Obstetrics* in 1922, he had already performed more than 4,000 versions, and achieved a national reputation —albeit a controversial one. Even his most vocal critics, however, were united in their praise for his technique of version, most clearly described and illustrated in his monograph (5). The essential points of Dr. Potter's technique involved: 1) complete dilation and effacement of the cervix, 2) surgical anesthesia using chloroform, 3) the Walcher position, ie, extended hips, similar to the position used today for operative laparoscopy, 4) manual "ironing out" of the vagina with the entire hand for 10–15 minutes, 5) slow extraction of the child, bringing down both feet together, and 6) the avoidance of any abdominal pressure until the arms were delivered, then application of suprapubic pressure and Mauriceau's maneuver to maintain flexion of the head. He rarely performed episiotomy, and only occasionally applied forceps to the aftercoming head. Dr. Potter's good results owe much to the round-the-clock availability of his "personal" anesthetist, Dr. Reynolds.

Dr. Potter dedicated his book to the "Woman in travail, in the reverent hope that her *hour* may be shortened, her *anguish* lessened, and her joy made complete." Although his stated goal was the elimination of the second stage of labor, there is no question that version allowed him to manage his time better —no easy task for a man who delivered more than 1,000 babies per year for many years. In his words,

> any advance in the practice of obstetrics, which will conserve the strength and well-being of the attendant, and shorten the time necessary for the completion of a given task, provided that safety and efficiency are in no way lessened or sacrificed, is worthy of consideration, even upon this ground alone."(5)

Controversy

When Potter read his paper "Version, With a Report of Two Hundred Additional Cases" at the 1916 annual meeting of the American Association of Obstetricians and Gynecologists, his advocacy of "prophylactic" version generated so much negative reaction, that the Executive Committee refused to publish his article. He was told that he would in time see the error of his ways, and regret having written such a paper. Disappointed, yet undaunted, Dr. Potter felt justified in expanding his use of version, believing that "every intelligent man finds his best teacher in his own experience"(11). The following year, he reported an additional 200 cases of version, and responded to earlier criticism of his work (11). This paper was published but, as Dr. Rucker (Richmond, Virginia, 1881–1953) later put it,

> The discussion of the second paper was no less favorable…that, while Dr. Potter's results were good, the adoption of Dr. Potter's teachings would lead to untold harm. (12)

Although his detractors were legion, Dr. Potter—like most men of strong conviction and personality—attracted his share of disciples. Among them, Drs. Rucker, Zinke (Cincinnati, Ohio, 1845–1922), Speidel (Louisville, Kentucky, 1859–1948), and Knipe (Philadelphia, Pennsylvania) all published papers between 1918 and 1923 endorsing many aspects of Dr. Potter's practice (12–15). Their support and praise did much to defuse public criticism of Dr. Potter, and later elevated him to iconic status. Dr. Potter did his part by responding graciously to his critics in public forums, and rarely discussing his indications for version—content to demonstrate his technique to anyone and everyone.

Dr. DeLee was among the more than 900 obstetricians who made the trip to Buffalo, New York over the years; as editor of the *Year Book of Obstetrics*, Dr. DeLee wrote in 1919:

> The one version he [the editor] saw was very cleverly done…probably [version] has not been done as much as it deserves to be…but that version and extraction should be installed as the routine treatment of labor in the second stage is not scientific—one who has visited Potter is much too impressed with his sincerity and ability to call it absurd. No, for the rank and file and for most of the officers of our profession, the old watchful expectancy is still the flag to rally around. (16)

In a review of Dr. Potter's book, Dr. Polak (Brooklyn, New York, 1870–1931) opined:

> …the practice of obstetrics in Potter's hands divides itself into version and cesarean section, interrupted by the occasional spontaneous delivery occurring before the arrival of the attendant. That this is radicalism does not admit of argument…we are as yet in ignorance as to why version was performed 920 times in 1113 deliveries in 1920…, unless it was for the convenience of the operator or on that questionable indication, eliminating the pain of the second stage of labor. (17)

By the mid-1920s, no obstetrician in the United States was neutral about Dr. Potter. However, the vitriol of yesteryear was gone, as Dr. Potter himself admitted:

> …my records have been accepted and my personal honesty acknowledged… Some of those who formerly denounced me and my methods are now silent; others…are at present outspoken in their commendation of my practice; and a large number have made a study of the procedure, thereafter successfully applying it to their own work. (10)

In 1930, Dr. Williams (Baltimore, Maryland, 1866–1931) described the "official" status of the Potter version in academic circles:

> Potter…has advanced the revolutionary doctrine that all labors not complicated by serious disproportion, should be ended by version and extraction… . If his claim is substantiated, he…will have converted childbirth from a physiological and in great part spontaneous process into a routinely operative one…. He may be right, but I doubt it. Of two things, however, I am sure: first, that he is an extraordinarily accomplished operator, and second that should his practice become generally adopted, the mortality from childbirth will increase… (18)

Dr. Potter's justification for his method—that his outcomes were comparable to those achieved in larger centers—was questioned. Given Dr. Potter's acknowledged technical virtuosity and his middle-class clientele, Dr. Williams expected Dr. Potter's results to be much better than those at the Johns Hopkins University, where infants of high-risk patients were delivered by interns and residents. That they were at all comparable was seen as an indictment of Dr. Potter's practice:

> …only one of two conclusions can be drawn: either that dexterity and training count for nothing, which is contrary to all experience, or that some inherent defect in Potter's practice counterbalances such advantages. I am convinced that the latter is the case… . For these reasons I advise against any wide acceptance of Potter's teaching… (18)

For the rest of his long career, Dr. Potter remained a maverick—a force of nature who impressed many by his earnestness and technical skill. For years he lectured annually on the technique of version in the New York Polyclinic Hospital (19). However, after the 1920s, no other obstetrician except his son Milton would admit in print that he performed elective version. By 1945, only 15% of deliveries at the Millard Fillmore Hospital in Buffalo, New York were completed by elective version—a far cry from the 90% rate of the elder Dr. Potter in his prime (20). In that year, it was Dr. Stander's opinion that "the practice of routine V&E, advised by Potter, at present is not followed in any of the teaching hospitals" (21).

Potter, the Man

Irving White Potter, MD, was born, practiced, and died in Buffalo, New York. His middle name honors James Platt White, MD (1811–1881, Professor of Obstetrics and Diseases of Women, University of Buffalo Medical School), who was consulted because of complications during Dr. Potter's birth (22). Irving was born into a prosperous medical family. His father, Milton Grosvenor Potter, MD, was a third generation physician in his branch of the Potter family, and a former dean of the University of Buffalo Medical School. Irving was home schooled by tutors, and worked for 2 years as a physician's apprentice in Syracuse, New York, before entering medical school in Buffalo, New York. Graduating in 1891, he engaged in general practice until 1906, when he began to limit his practice to obstetrics. In a 1952 interview with David H. Nichols, MD (1925–1998, Chairman Obstetrics and Gynecology, Brown University, Rhode Island), Dr. Potter described learning his craft by helping midwives who consulted him (personal communication, Potter BE, 2006 [MP3 audio file]). Unlike most of his academic contemporaries, Dr. Potter did not receive any formal postgraduate training, nor did he travel to the great centers of Europe. This may explain how he came to employ version, in preference to forceps.

In 1893, he married Grace McDowell. Their 53-year marriage produced a son and a daughter. His son, also named Milton Grosvenor (1895-1970), joined

his father's practice in 1925 after interning in Puerto Rico (23). In a remarkable display of consistency, if not hubris, Dr. Irving Potter delivered his own grandchildren by version. All three of Milton's sons (Milton Grosvenor Jr or "Grove," Paul, and Benjamin) in turn became obstetrician–gynecologists. Paul and Benjamin, now retired, recall that they were permitted, at a very young age, to watch their grandfather perform deliveries. They remember him affectionately as "a warm and friendly guy" (personal communication, Potter BE, 2006 [MP3 audio file]).

In his prime, Potter was delivering infants of more than 1,000 women a year—in homes, and in as many as six different hospitals in the Buffalo, New York area. Dr. Zinke describes him as a workaholic:

> ...he lives in his automobile; he sleeps upon the floor in the patient's home; he rests almost anywhere, in any position, under all conditions. He is devoted to his patients and to his practice. (3)

In 1942, the new obstetric wing of the Millard Fillmore Hospital, in Buffalo, New York, was dedicated to Dr. Potter. Despite failing eyesight, he continued to work well into his eighties, having apparently never taken a vacation. After his death in 1956, friends and grateful patients created the Dr. Irving W. Potter Memorial Fund—leading to construction of the Dr. Irving W. Potter Memorial Suite, a state-of-the art obstetric facility at the Deaconess Hospital of Buffalo, New York that opened in 1962.

In an obituary, Dr. Clyde L. Randall (1905–1990, Professor Obstetrics and Gynecology at the State University of New York at Buffalo), summed up Dr. Irving Potter's life and work:

> Many who regarded Irving White Potter as the proponent of beliefs regarded as unwise, or as a perpetrator of procedures not generally approved, knew him neither as physician nor as a friend. Those privileged to know him remember a truly beloved physician, with friendliness and hospitality in rare degree, and an ability to work unceasingly with all the good-humored assurance of the physician whose grateful patients are legion. (19)

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