

“The Prophylactic Forceps Operation” (1920), by Joseph Bolivar DeLee

In 1920, Joseph Bolivar DeLee published the article, “The Prophylactic Forceps Operation,” in which he describes how physicians can manually remove a neonate from a laboring woman’s vagina with the use of sedating drugs and forceps. The procedure, according to DeLee, resulted in decreased rates of complications and mortality for both the woman and neonate. DeLee claimed the procedure could reduce damage to the woman such as prolapse, or when internal pelvic organs push down and sometimes protrude from the vagina, and fatal infant brain bleeding. He also suggested that physicians make an incision from the woman’s anus to vagina to accommodate the use of forceps, a procedure later known as an episiotomy. In “The Prophylactic Forceps Operation,” DeLee proposed the technique and use of his procedure, adding to the growing debate in the early twentieth century on the best way to medically assist women during delivery.

Around the time of the article’s publication, many US women delivered their infants under the care of a midwife, or a type of nurse specialized in birth. Because many of those deliveries were home births, there were few treatment options available in the event the delivery became medically complicated. Certain medical complications include shoulder dystocia, which can occur when the neonate’s shoulder gets stuck on the woman’s pelvic bone, if the neonate becomes stuck in the vagina, or if the neonate begins to exhibit distress, such as changes to the heart rate or respiration rate. DeLee was one of the first obstetricians in the US and spent his career advocating for the expansion of the obstetrics field, particularly to include more training and emphasis on physician-led childbirth. An obstetrician is a type of physician who provides care for women before, during, and after childbirth. In 1895, he founded the Chicago Lying-In Hospital in Chicago, Illinois, with the purpose of offering safe deliveries for low-income women and training medical students in the field of obstetrics. Ultimately, DeLee was considered controversial by many historians, based on his rejection of midwifery and his focus on improving medical interventions to save women’s lives during complicated deliveries.

“The Prophylactic Forceps Operation” was transcribed from a speech DeLee presented at the 1920 American Gynecological Society meeting in Chicago, Illinois. In its print form, the paper has two main sections, beginning with a general overview of the topic, and a secondary section titled “The Perineotomy,” where he includes diagrams to explain the procedure in more detail. DeLee begins the article by briefly summarizing why, according to him, the prophylactic forceps operation is necessary in some situations, and why obstetricians should be the only medical practitioner to perform the procedure. DeLee then describes the basics of the prophylactic forceps operation, explaining the methods and medications physicians should administer to the patient during the operation. Under the second section, titled “The Perineotomy,” DeLee discusses how to repair tears in the woman’s skin and muscles that may occur during delivery. During the section, DeLee supplements his instructions with visual representations of the female anatomy as it appears during delivery, and describes a procedure involving a surgical cut to a woman’s perineum to prevent tearing, a procedure that is called an episiotomy as of 2021. DeLee concludes the article with statistics that positively demonstrate how the prophylactic forceps operation decreased both infant and maternal mortality rates.

DeLee begins his description of the prophylactic forceps operation by detailing how an obstetrician would perform the procedure during a typical, uncomplicated delivery. However, according to historian Carolyn Herbst Lewis, DeLee did not suggest that all uncomplicated deliveries should receive intervention, but rather that obstetricians should pay attention to their patient and intervene

as soon as they determine something may be wrong, before serious complications arise. DeLee states that the obstetrician should begin the procedure when the pregnant woman is in labor and her cervix is dilated slightly to around two to three centimeters. When a woman is ready to deliver a neonate, her cervix is typically dilated to ten centimeters. At that time, if the obstetrician has detected an issue, DeLee states that the physician should give the pregnant woman a mix of scopolamine and morphine. Around that time, physicians used those drugs to induce a modified version of what was called twilight sleep in the patient. In twilight sleep, a physician would administer a mix of anesthetic medications to cause a laboring woman to enter a drug-induced sleep-state to relieve her pain during the delivery process.

DeLee then proceeds to say that, once the pregnant woman's cervix fully dilates, the physician should give her an additional set of medications and assist in delivery of the neonate with forceps. Forceps are surgical instruments that enable the physician to grip the head of the neonate for delivery, and look like a set of tongs with wide curved paddles at the ends. After the delivery of the neonate, DeLee states the physician should then extract the placenta using the shoehorn maneuver, which is a technique during which the obstetrician inserts their left hand into the woman's vagina while placing their right hand on the woman's abdomen. Then, the physician applies pressure to push the placenta out of the woman's vagina. As one of the final steps of the prophylactic forceps operation, DeLee states the physician should then give the patient additional doses of medications to prolong the twilight sleep for multiple hours after extracting the placenta. According to DeLee, administering those medications will provide the physician with ample time to repair any vaginal, cervical, or anal tearing that may have occurred during the delivery.

DeLee describes his preventative intervention for damage that can occur during childbirth in the article's next section. Women can experience damage such as rupturing of certain reproductive structures, stretched or torn tissues, or prolapse, which is typically when the pelvic organs fall out of the woman's vagina. He states that physicians can control the amount of damage that occurs if they make certain incisions preemptively. DeLee includes diagrams where he recommends physicians make incisions into the woman's pelvic region. Visually, if a physician is facing the woman's vagina, DeLee says that they should make the incision above the anus, connecting to the skin surrounding the vaginal opening, and continuing downward to the right side of the vagina. That would result in a diagonal incision. While DeLee named the incision the perineotomy, it later became what is known as the episiotomy.

According to DeLee in 1920, the perineotomy allowed the physician to open the woman's vagina to a larger degree to reduce damage to her body. That resulted in a faster pace of the woman's delivery and thus reduced the strain on the woman's pelvic muscles. According to DeLee, by making an intentional incision beside the vagina, the physician can relieve the pressure on the tissues before they rip in an uncontrolled and unexpected manner. After delivery, DeLee recommends that the physician should then repair the incision using sutures. If sutured correctly, DeLee notes, the woman's vagina would return fully to what he calls its "original virginal conditions" prior to delivery. He then discusses how women can sustain permanent damage to their reproductive structures without using his prescribed method of childbirth assistance.

DeLee then lists potential neonatal injuries that can occur during a medically-unassisted birth and how physicians can avoid those neonatal injuries by using the prophylactic forceps operation. DeLee suggests that neonates can be subjected to injuries such as fractures of the skull, bleeding in the brain, eye damage, facial paralysis, rupture of the neonate's neck muscles, and bone fractures. DeLee notes that two of the most common neonatal injuries include fetal brain bleeding and asphyxiation as a result of prolonged delivery, which both can be fatal. He cites statistics claiming a neonatal mortality rate during labor between four and five percent, but states that a true number of neonatal deaths would be impossible to calculate. DeLee claims that physicians who use the prophylactic forceps operation can avoid such neonatal injuries and deaths due to the speed at which they can help the woman deliver the neonate. He concludes by stating that there is no risk for long-term damage using his technique, and claims that no woman or neonate had died during a prophylactic forceps operation.

After DeLee delivered his speech at the 1920 American Gynecological Society meeting, many other physicians expressed apprehension at some of DeLee's claims. Obstetrician John Whitridge

Williams, publicly addressed his concern during the meeting. Williams expressed concern about the technical nature of the procedure, and stated he believed it would be safer for a woman to labor at home with a midwife than to undergo the procedure. He further criticized DeLee's recommendation for the shoehorn method, stating that although it could be proactive of the physician to manually remove the placenta, as it is an invasive intervention. Another obstetrician, Thomas Watts Eden, also publicly voiced his doubts regarding the prophylactic forceps operation during the meeting. He stated that the method would not actually protect women from a prolapse injury, since the technique does not account for preserving or repairing certain muscles that could result in a possible bladder prolapse. Eden stated he thought birth interventions should remain minimal, and implied the prophylactic forceps operation would result in significant harm if implemented across the US.

While some physicians did begin using the prophylactic forceps operation, according to physician Steven G. Gabbe, further research into the procedure revealed that the use of forceps and episiotomy during delivery had not been shown to significantly reduce maternal or neonatal mortality. Although physicians do not use the exact procedure described by DeLee, they do use neonatal extraction techniques using forceps, called a forceps delivery. "The Prophylactic Forceps Operation," added to the growing debate regarding the best way to medically assist women in delivery.

Sources

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