Mitchell B, Vaughn S, Veluri S. The History of the Cesarean Section. *Academic Medicine & Surgery*. Published online September 1, 2024. doi:10.62186/001c.123289

Review

The History of the Cesarean Section

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Keywords: Cesarean section, C-section, Obstetrics, History of Medicine

https://doi.org/10.62186/001c.123289

Academic Medicine & Surgery

This paper outlines the evolution of the Cesarean section (C-section) from its origin in the 1500s to the present day. It explores how this procedure has significantly changed over time, starting as a rare operation only given to dying mothers as a means to help save their unborn child to becoming a typical part of childbirth today. This review covers the historical developments, including early surgeries, the influences of religion in surgical practices, and medical advances such as anesthetics and better surgical techniques and tools.

BACKGROUND

The Cesarean section (C-section) is a well-known childbirth procedure for birth, dating back to the 1500s. It is scientifically proven to be the most common procedure in the United States and is one of the most integral procedures in the field of Obstetrics and Gynecology (OB-GYN). In 2022, The Cesarean section helped 1.1 million people who were unable to naturally deliver by generating a new method of giving birth. C-sections have a robust history, and today have become a keystone in the field of OB-GYN.

REVIEW

Surgical procedures were utilized as an alternative means for delivery prior to the term "cesarean" being coined as the official medical terminology. The term "Cesarean" may have originated from Roman law under Julius Caesar, who claimed that women who died during the process of childbirth were to be cut open in order to save the baby.[1]

In the early 1500s, primary documentation of C-sections explained that this procedure was only performed on dying mothers in order to save the unborn child, similar to the purpose of surgery during the reign of the Roman Empire. The first documented record of a Cesarean delivery performed on a living patient was conducted by Jakob Nufer, who surprisingly operated on his own wife. Jakob Nufer was reportedly a swineherd in Switzerland, who usually performed surgeries on his livestock, which most likely contributed to his ability to perform the procedure on his wife. Due to her prolonged labor, Jacob's wife, Elizabeth, unfortunately, could not deliver her baby, which necessitated urgent intervention by means of surgical removal. Ultimately, the surgery was successful, and both the mother and child survived the procedure.

In the late 1500s, cesarean delivery was no longer viewed from solely a medical perspective, but rather through a religious lens. A woodcut depicting the birth of the Antichrist, a winged demon emerging from the womb of a mother, via a surgical procedure, emphasized the politicization of cesarean delivery during this time period[2][Figure 1].

Later on in 1794, a physician by the name of Dr. Jesse Bennett was recorded to be the first doctor to successfully perform a C-section in the United States after it was requested during a difficult labor. Due to his wife having long-term complications in delivering their baby, Bennett made a low incision through her abdomen and uterus. After delivering the baby, he also removed her uterus to prevent her from bearing children in the future. As this C-section was recorded to be successfully completed, it increased awareness and understanding about successful techniques for cesarean delivery to save the life of both mother and child.[3,4]

In 1847, the implementation of anesthetics such as Ether became more common in surgical practice, thus increasing survival rates for both mothers and children during cesarean delivery. Ether was introduced by Dr. William Morton when he successfully removed a face tumor. This new innovation opened up doors to allow many surgeons to perform more meticulous operations by inducing their patients into a state of unconsciousness. Anesthesia is now an integral aspect of surgical practice as it serves as both a pain reliever and muscle relaxant.[5]

As technology in the operating room improved in the United States, methods of surgical extraction during birth also occurred in regions abroad. In 1879, British traveler and medical missionary, R.W Felkin witnessed a cesarean section performed by a tribe in Uganda. In their particular procedure, a midline incision was used for extraction, banana wine was used to sterilize the abdomen and hands of the person operating, and a cauter was used to reduce the bleeding. Felkin considered this surgical technique "well-developed" and thus a successful delivery method.[5] Eventually, the banana wine technique was used globally to help treat wounds. As medical advancements were continuously improving, the Pfannenstiel incision better known as the low incision, was introduced in 1900 to reduce complications and shorten recovery time.[6] By the mid-20th century,

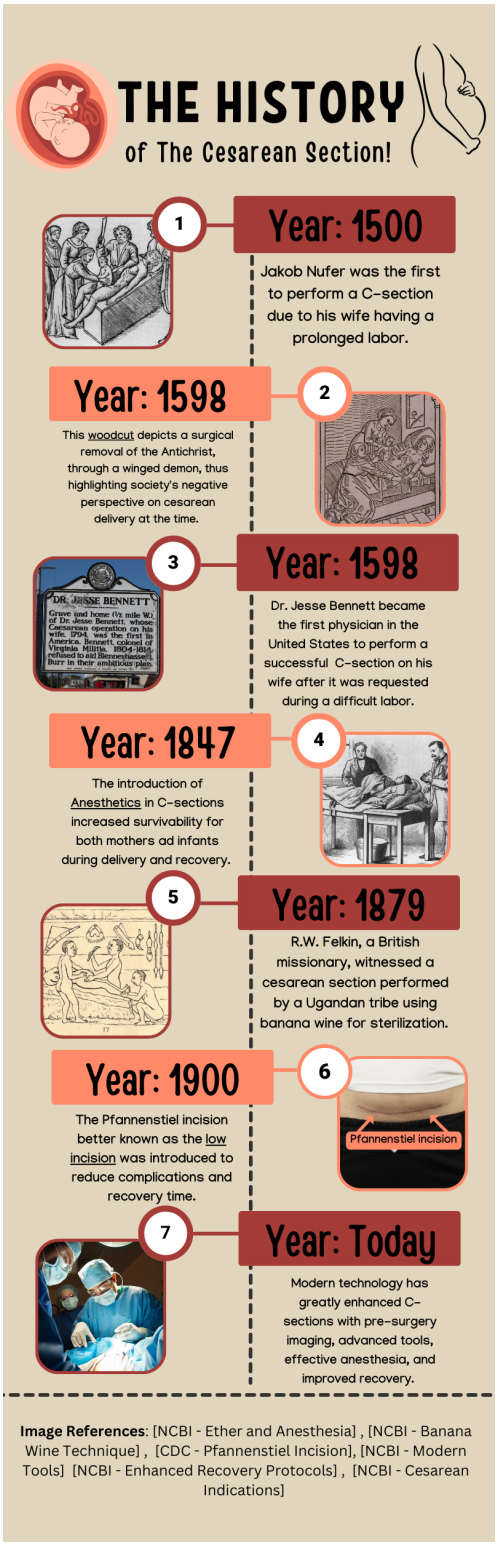

Figure 1. Infographic depicting the history of the Ceasarian section. Designed by Bennika Mitchell, on Canva.com

the development of antibiotics showed improved results in preventing postoperative infections.

Today, Cesarean sections are known to be a common and mainly safe procedure, accounting for 32.1% of all childbirth deliveries.[7] Modern medical technology has significantly improved the safety and efficiency of C-sections. The use of ultrasounds and MRIs allows for proper evaluation of fetal and placental positioning prior to operation. Secondly, the advancement of surgical tools helped increase precision when cutting, making the procedure less intrusive and more effective.[5] Thirdly, the advancements in anesthesia and recovery protocols, such as epidurals and spinal anesthesia have become effective pain reliefs without posing major risks to the mother and child.[8] While C-sections have become a positive alternative to natural birth, these new techniques have become a financial incentive for hospitals. Many C-sections are oftentimes performed unnecessarily due to high coverage rates by insurance companies. Although this method of delivery has tremendously increased over time, Cesearn sections are still a positive means of delivery due to the sheer number of lives saved in emergency situations.[9]

CONCLUSION

The history of cesarean sections has tremendously improved from its origin. Starting from the Roman Empire all the way to modern practice, the procedure has now become a foundation of obstetric care, preventing millions of deaths and ensuring the safety of the mother and child. As technology and medical knowledge continue to grow and advance, cesarean sections will become even more of a safe and effective route for childbirth.

Submitted: August 28, 2024 EDT, Accepted: August 31, 2024 EDT

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