

Cesarean Hysterectomy At Kasr Al Aini Hospital During The Time period From (2005-2010)

Thesis

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Abstract

Most common indication for cesarean hysterectomy has been uterine atony and uterine rupture.

Recently the most common reported indication is placenta accreta, and is most likely related to increase in number of cesarean deliveries observed over the past two decades.

This is a retrospective study of cesarean hysterectomy in Kasr Al Aini Maternity Hospital during the period of time from first of January 2005 to the end of January 2010.

The purpose of this study was to estimate the incidence, indications, risk factors, and complications associated with cesarean hysterectomies.

It was found that placenta previa was the main indication for cesarean hysterectomy, the second common indication was uterine atony, and the third indication was uterine rupture

Key words

Cesarean hysterectomy, Abnormal placentation.

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INTRODUCTION

In 1869, Storer performed the first cesarean hysterectomy in the United States (**Park RC, 1980**).

Soon thereafter, Porro of Milan described the first cesarean hysterectomy in which the infant and mother survived; the procedure is frequently referred to as the Porro operation in his honor (**Porro E, 1876**).

Cesarean hysterectomies may be classified as emergent, indicated nonemergent, and for elective sterilization. Each of these categories presents different management problems for the obstetric surgeon (**Plauche Plauché WC et al, 1983**).

The most recent report of the U.K. Confidential inquiry into Maternal and Child Health noted that maternal deaths from hemorrhage have increased (**Hall M, 2004**).

The cause of this rise is uncertain, but it has been suggested that it may be related to changes in the pattern of childbearing, including an increasing number of cesarean deliveries (**Hall M, 2004**).

Rates of cesarean delivery are increasing worldwide and in some areas of Latin America have reached 50% (**Villar J, 2006**).

In Egypt, significant rise in cesarean deliveries occurred for all births, from a low of 4.6 percent in 1992 to 10.3 percent in 2000 (**Marwan Khawaja, 2004**).

Several small studies have suggested an association between peripartum hysterectomy and previous cesarean delivery (**Selo-Ojeme DO et al, 2005**).

Most procedures are performed to arrest hemorrhage from intractable uterine atony, lower-segment bleeding associated with the uterine incision or placental implantation, uterine rupture, or uterine vessel laceration (**Flood KM et al, 2009**).

The most common indication for emergency peripartum hysterectomy has been uterine atony and uterine rupture (**Chestnut DH, 1985**).

Recently, placental adherence has become the foremost indication for peripartum hysterectomy (**Sheiner E et al, 2003**).

Gupta et al (1973) showed an incidence of 42% of uterine rupture in patients undergoing cesarean hysterectomy.

According to **Clark et al (1984)** placenta accreta occurred in 5% of women with placenta previa and an unscarred uterus, and increased to 67% in women with previa and four previous cesarean deliveries. **Clark et al (1985)**. **Miller et al (1997)** reported a general incidence of 10% of placenta accreta in women with placenta previa. The incidence of placenta accreta was 2.1% in women less than 35 years old and no previous cesarean delivery, whereas it was 38% in women with two or more cesarean deliveries and complete placenta previa (**Miller et al, 1997**).

Cesarean hysterectomy is often performed in the presence of uterine trauma or rupture in which hematomas of the broad ligament and neighboring structures make visualization difficult and distort anatomic relations. Careful exposure, skilled assistants, and attention to hemostasis are of primary importance (**Seago DP et al, 1999**).

Barclay in 1976 showed that 82.6% of patients undergoing cesarean hysterectomy were para 2 or greater.

Complications from peripartum hysterectomy are high because of the increased blood supply to the pelvic organs during pregnancy, the distorted pelvic anatomy as a result of the enlarged uterus and the fragility of the tissues (**Barclay DL, 1969**).

There are significant major complications associated with hysterectomy. More than one third of all procedures have at least one complication, but most of these are minor and of little consequence (**Wattiez et al, 2002**).

Hysterectomy is associated with small risk of surgically induced mortality and morbidity as well as the onset of new symptoms after surgery (**Maresh et al, 2002**).

Intraoperative hemorrhage invariably is the result of failure to ligate securely a significant blood vessel, bleeding from the vaginal cuff, slippage of previously placed ligature, or avulsion of tissue before clamping. Most intraoperative bleeding can be avoided with adequate exposure and good surgical technique (**Nichols and Randall, 1989**).

Injury to the urinary bladder is one of the most common intra-operative complications associated with hysterectomy (**Buchsbaum and Walton, 1986**).

It has been suggested that the routine performance of emergency total abdominal hysterectomy is unnecessary and potentially harmful (**Heij HA, 1985**).

Subtotal hysterectomy typically has a quicker recovery time, lower risk of infection and damage to the urinary tract, and less blood loss than total hysterectomy (**Thakar et al, 2002**).

Delayed hemorrhage can occur at any time from 1 to 3 weeks after the initial surgery. In such cases the vaginal vault should be inspected in the operating room (**Weber and Lee, 1996**).

Aim of the work

This is a retrospective study of cesarean hysterectomy in Kasr Al Aini Maternity Hospital during the period of time from first of January 2005 to the end of January 2010.

The aim of the study is to evaluate the incidence, risk factors, indications, outcomes, and complications of emergency hysterectomy performed after cesarean deliveries (cesarean hysterectomy), and finally, to make some recommendation and comments for the possible prevention.

HISTORY

The concept behind cesarean hysterectomy dates back to descriptions of the procedure on laboratory animals from the mid 1700s. In 1869, Storer performed the first cesarean hysterectomy in the United States. Soon thereafter, Porro of Milan described the first cesarean hysterectomy in which the infant and mother survived; the procedure is frequently referred to as the Porro operation in his honor **(Park RC et al, 1980)**.

The Porro operation, or the ‘radical caesarean section’, is defined as a surgery where the uterus is completely removed (hysterectomy). This left the woman unable to have any more children, which in itself had profound effects on emotional wellbeing of the woman. Dr Joseph Cavallini had suggested this surgery as early as 1768, but attempts to perform this surgery then had been unsuccessful **(Gabert HA et al, 1988)**. In 1876, Eduardo Porro successfully performed this surgery. With the widespread usage of this surgery, presence of antiseptic protocols, and intervening earlier, mortality rates showed a marked decrease **(Gabert HA et al, 1988)**.

In the history of caesarean section, the work of the Italian obstetrician Eduardo Porro represents a pivotal stage in the development of the procedure in the modern era. Porro advocated hysterectomy during a Caesarean to control uterine hemorrhage and prevent peritonitis. His procedure contributed to improved outcome for mother and child, but at the cost of the mother's future fertility. Prior to Porro, the mortality for both patients was virtually 100%. Within five years of his initial operation, 50 cases delivered by the Porro method showed a maternal mortality of 58% and an infant survival of 86%, a major advance for the time **(Harris RP, 1880)**.

The concept of caesarean hysterectomy dates back to 1768 when Joseph Cavallini successfully excised the pregnant uteri in dogs and sheep. He concluded that the organ was “not necessary to sustain life” and speculated that in a future generation it

might be possible to undertake in humans. “In speculative moments, I have sometimes felt inclined to persuade myself that the dangers of caesarean operation might be considerably diminished by removal of the uterus. Perhaps this method of operating may prove an eminent and valuable improvement **(Young JH, 1944)**.

The first caesarean hysterectomy performed in a woman was done by Horatio Storer in Boston in 1868. Storer was a Harvard graduate who was trained with James Young Simpson in Edinburgh. Abdominal delivery was necessary in this case because the birth canal was obstructed by a large pelvic tumor. The operation was undertaken as a three-hour emergency procedure after labor had commenced. Although the infant survived, the mother died on the third post-operative day because of the effects of hemorrhage. It was not until 1876 that Porro performed the first planned and successful operation **(Storer HR, 1866)**.

In 1876, Eduardo Porro reported the first Caesarean hysterectomy in which both infant and mother survived **(Porro E, 1867)**.

Storer's operation eight years earlier had been an emergency procedure with the decision to amputate the uterus as a last minute life saving measure to prevent hemorrhage. Porro's operation however was a carefully planned and executed in more optimal conditions. Although Storer later reported his case, it was largely unrecognized in his day. Porro on the other hand documented his operation in a publication the following year in a paper of 63 pages. It attracted widespread interest throughout the world and became known as Porro's operation.

Porro's paper describes the case in great detail. The mother was a 25-year-old primigravida dwarf, named Julia Cavillini who was referred to Porro's clinic in Pavia because of a suspected malformed pelvis. She had suffered from rickets between the ages of three and ten and during this period was

unable to support herself in the erect position without assistance. She was 148 centimeters tall and had the characteristic bony features of rickets including bowlegs, scoliosis and the right iliac crest was four centimeters higher than the left. Porro also noted the pelvis was narrowed in all planes with a diagonal conjugate of seven centimeters. In addition spondylolisthesis of the lumbar spine resulted in a form of roof over the pelvic inlet. He wrote, "It was obvious that absolute disproportion existed and that caesarean section was mandatory."

Porro consulted with his colleagues in Pavia and all concurred that vaginal delivery was impossible even with embryotomy. He discussed the case with the Bishop of Pavia who consented on religious grounds to the procedure being performed. His plan was to amputate the uterus through an abdominal incision if he encountered serious hemorrhage during the delivery.

Julia Cavillini was admitted to hospital on May 21 prior to labor. Her membranes were ruptured and chloroform anesthesia was administered. He records in his paper "at 4.51 pm we began to cut through the abdominal wall, layer by layer through a 12 centimeter incision in the linear alba. After the peritoneal cavity was opened, the uterus was immediately incised, in the same direction and to the same extent as the abdominal incision. Unable to deliver the fetal head with my right hand in the uterus, I finally reached up, grasped and delivered the right leg and thigh, the left leg, trunk, arms and head followed immediately. We extracted a large (3300 gram) female infant alive, healthy, well formed and crying spontaneously. After tying and dividing the umbilical cord we proceeded to extract the placenta, which we removed intact, together with the major portion of the membranes."

The uterus bled profusely from its cut edges and could not be controlled by a suture. Porro noted, "It was providential that we had made all the preparation necessary for hysterectomy; otherwise the patient would surely have died." The uterus was held up out of the abdominal wound and a wire snare of Cintrat

at the level of the internal os was pulled up tightly and after blood flow was completely shut off, the uterus was excised above the ligature. He proceeded to peritoneal toilet using Lister's carbolyzed sponges, removed blood clots and then the uterine stump was incorporated into the lower part of the abdominal wound. The post-operative course was marked by a vulvovaginitis, sacral ulcers and suppuration of the abdominal wound as well as a urinary infection. The snare over the gangrenous portion of the uterine stump was removed on day four as was the vaginal drain. Both mother and infant survived and Porro's paper contains a plate of Julia Cavillini during her convalescence. Soon after at the medical congress of Turin, Porro proclaimed, "I believe that the day is not far off in which medical science will approving utero-ovarian amputation in every case of Caesarean section." (**Porro E, 1867**).

Porro's paper "Dell'amputazione utero-ovarica come complemento de taglio cesereo" attracted widespread interest throughout the obstetric community worldwide. Not long after, Inzana and Previtali in Italy and Hegar in Germany presented case reports of caesarean hysterectomy. Numerous modifications of the technique were proposed but it quickly became known as Porro's operation. Muller in Switzerland advocated the removal of the uterus from the peritoneal cavity and elevation onto the abdominal wall before making the hysterectomy incision. By 1880 Robert Harris collected 50 cases of Caesarean hysterectomy worldwide (**Harris RP, 1880**).

Richardson in the United States performed the first procedure in 1881. This was also undertaken on a young dwarf and he utilised Muller's technique of exteriorizing the uterus. The first successful caesarean hysterectomy in Great Britain was undertaken by Godson and was published in the British Medical Journal as 'Porro's Operation' in 1846. Tait in Birmingham recommended exteriorization of the uterus and suturing of the cervical stump to the abdominal wall (**Young JH, 1944**).