Hysterectomy

A hysterectomy is the surgical removal of a woman's uterus. For many women, a hysterectomy comes as a solution to health problems as diverse as abnormal bleeding to reproductive cancers. First performed in the early 1800s, this procedure has evolved in terms of both technique and popularity. The first successful abdominal hysterectomy was performed by Ellis Burnham in Lowell, Massachusetts, in 1853, although earlier attempts were made in the 1840s. These first hysterectomies were not performed under effective anesthetics—it was not until later in 1853 that a patient of surgeon Gilman Kimball would benefit from the use of chloroform. The hysterectomy of the modern era has become a common and much safer procedure—so common, in fact, that many believe that the hysterectomy is performed too often and in place of other, perhaps healthier, alternatives. In addition to its inherent surgical risks, a hysterectomy also makes it impossible for a woman to have further children.

The uterus is a thick, muscular organ of the female reproductive system. It opens to the roof of the vagina and bears the function of both housing and facilitating the delivery the fetus. This pear-shaped organ can be described by its wide superior curvature (the fundus), the body, and its inferior end (the cervix). The uterus is about seven centimeters in length, four centimeters wide, and 2.5 centimeters thick in nonpregnant women (the uterus is considerably larger in women who are pregnant). The triangular-shaped lumen of the uterus opens to the vagina with a passageway through the cervix termed the cervical canal. In nonpregnant women, the inner lining of the uterus, the endometrium, is shed during the monthly menstrual cycle. With pregnancy, the embryo implants into the decidualized, or primed endometrium.

A hysterectomy is often performed in response to various health problems affecting the female reproductive system. Some of these indications include uterine fibroids, abnormal bleeding, cancer, pelvic support problems, pelvic pain, pelvic inflammatory disease, endometriosis, endometrial hyperplasia, and postpartum hemorrhage. Uterine fibroids, or uterine leiomyomas, are benign growths in the uterine muscle and account for the majority of hysterectomies performed. Fibroids are often the cause of excessive bleeding, pain, and pressure on adjacent organs. Asymptomatic fibroids are usually not removed unless they are excessively enlarged or cause pain or compression to adjacent organs. However, like other major surgeries, a hysterectomy should not be performed in any case unless other medical alternatives have been exhausted.

The hysterectomy procedure can be further classified in terms of which structures are removed. In a subtotal (also known as partial or supracervical) hysterectomy, the upper part of the uterus is removed while the cervix is left undisturbed. Alternatively, in a total hysterectomy the cervix is removed along with the uterus. The third classification, the radical hysterectomy, involves the removal of the entire uterus along with its supporting structures and paracervical lymph nodes and is typically performed in cases of cancer. A hysterectomy by itself does not involve removal of the ovaries or fallopian tubes. However, when this procedure is performed it is known as a salpingo-oophorectomy. A hysterectomy can also be described by the surgical technique used. These include abdominal, vaginal, laparoscopically assisted vaginal, and total laparoscopic hysterectomies. Which procedure is performed depends both on the reason for surgery and on the results of a pelvic exam.

In an abdominal hysterectomy, the doctor makes a vertical or horizontal incision about five inches long in the lower abdomen. This procedure affords the physician a good view of the internal organs and is most commonly performed in cases of cancer or large tumors. Abdominal hysterectomies can also be performed for the removal of fibroids and to counter pain and bleeding. This procedure is more susceptible to complications, especially infection, than other modes of hysterectomy and

involves both a longer hospital stay (four to five days) and recovery period (six to eight weeks).

In a vaginal hysterectomy, the uterus is removed through an incision in the vagina. This procedure allows for a quicker recovery time for the patient (seven to fourteen days) as well as a shorter hospital stay (one to two days). This procedure is appropriate in many cases but depends on the size and mobility of the uterus and well as the training of the physician. The origin of vaginal hysterectomy dates back to AD 120 and some evidence suggests a date as early as fifty years before the birth of Christ. The first verifiable case of a successful partial vaginal hysterectomy occurred in Bologna in 1507.

Similar to a vaginal hysterectomy, the surgeon performing a laparoscopically assisted vaginal hysterectomy (LAVH) removes the uterus through the vagina. Before making an incision in the vagina, however, a telescope-like device known as a laparoscope is inserted into the abdomen through a small incision. Additional incisions are made to allow for placement of various surgical instruments. Typically LAVH is performed until the uterine arteries are reached, at which point the procedure is completed similar to a vaginal hysterectomy. While recovery from LAVH is similar to that for a vaginal hysterectomy, the surgery requires more time to perform and elevates the risk of possible damage to surrounding organs. This procedure is often recommended if a standard vaginal hysterectomy is not feasible. Laparoscopic procedures were introduced to Europe in the 1940s by European surgeons Hans Frangenheim and Raoul Palmer, attaining wide appeal in the 1970s and 1980s. In 1988, the world's first laparoscope-assisted vaginal hysterectomy was performed by Harry Reich. This new approach allowed for dissection of bowel adhesions, easier ovary removal, and internal inspection of wounds.

In a total laparoscopic hysterectomy, there is no need for a vaginal approach. This type of hysterectomy allows for preservation of vaginal support and the uterus is either removed through the abdominal opening or, if too large, is removed in pieces with the use of a device known as a morcellator. This newer approach has the advantage of a shorter hospital stay (one day), diminished post-operative pain, and a short recovery time (seven to fourteen days). Robotic hysterectomy uses remotely controlled instruments and allows for fine control and three-dimensional vision. This procedure is typically used in cancer patients in need of lymph node dissection or when the pelvic region has accumulated significant scar tissue, as in some cases of endometriosis, or as a result of scarring from prior surgical procedures.

As with any major surgery, a hysterectomy comes with potential risks and complications. These can include bleeding, infection, or injury to the internal organs such as the bowels, urinary tract, blood vessels, and nerves. Less commonly, major complications such as blood clots, pulmonary embolisms, anesthetic complications, and death can occur. The procedure has undergone substantial refinement since its inception, evolving from a mortality rate as high as 75% in the 1800s to as low as a 3% risk of complication from laparoscopic hysterectomies.

Hysterectomies are the second most commonly performed surgical procedure of reproductive-aged women, with approximately 600,000 performed annually in the US according to the CDC. With total annual hospital costs nearing five billion dollars for the procedure, issues about its appropriate usage have arisen. Because the procedure is most commonly performed to relieve symptoms or enhance quality of life, it is important to inform patients of nonsurgical alternatives to the procedure and to further investigate the use of hysterectomy for benign uterine conditions.

Sources

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