



Role of Hystero-Laparoscopy in Abortions and Infertility

Infertility or the inability to conceive a child can cause a fair amount of stress and unhappiness. While many couples seek help early others take time to get the required help. Significant advances have occurred in the diagnosis and treatment of reproductive disorders over the past decade. This has led to almost 90% of infertility cases to be diagnosed and treated.

Hysteroscopy and Laparoscopy play a considerable role in diagnosis and treatment of infertility today and hence-called Fertility Enhancing Surgeries.

Hysteroscopy is a procedure that allows a doctor to look inside the uterine cavity using a hysteroscope which is a thin long tube (telescope). This system is passed inside the uterus through the vagina. The camera is connected to a TV screen or monitor. A distention media (liquid or gas) is used to distend the uterine cavity which provides space and vision for the surgery. The instruments are passed through the hysteroscope and surgical procedures can be performed.

Laparoscopy is a type of surgical procedure done to assess the abdominal and pelvic organs without making large incisions in the abdomen. Since the incision is very small, it is also called key-hole surgery or minimally invasive surgery (MIS).

A small incision of 0.5 cm to 1 cm is made at, or just above the navel. Through this incision long thin telescopes are passed into the abdomen. This telescope is attached to a camera and a monitor. With the help of this system, the internal organs are visualized.

In infertility cases, Laparoscopy is performed in the following situations:

UNEXPLAINED INFERTILITY

When a couple is unable to conceive, initially they will be advised undergo a few standard tests like semen analysis, assessment of egg reserve, imaging test for patency of the Fallopian tube, or transvaginal or MRI to evaluate reproductive organs.

Laparoscopy is performed in such cases of unexplained infertility as it gives the advantage of direct visualization of the uterus, ovaries, Fallopian tubes and other pelvic organs. Conditions such as pelvic adhesions or surface endometriosis can be diagnosed only by laparoscopy. Laparoscopic removal of these adhesions can help to reduce pelvic pain and can improve the functioning of Fallopian tubes, thus improving the possibility of conceiving.

Endometriosis is a condition in which the tissue that forms the lining of the uterus (the endometrium) is found outside the uterus on the Peritoneum, Ovaries, Fallopian tubes, Ovary surface of the uterus, bladder, ureters, intestines, and rectum. Inflammation from endometriosis may damage the sperm or egg or interfere with their movement through the Fallopian tubes and uterus. In some cases of endometriosis, the Fallopian tube may be blocked by adhesions or scar tissue. Laparoscopic excision or ablation of these endometrial implants and removal of adhesion tissues enhance the possibility of conceiving.

OPERATIVE LAPAROSCOPY

Operative laparoscopy is performed when an ultrasound indicates a case of Uterus, Ovaries or Fallopian tube as a cause for infertility.

Uterine causes:

- Fibroids
- Adenomyosis
- Ovarian causes:
- Endometriosis
- PCOS
- Fallopian tube causes:
- Tubal blockage
- Hydrosalpinx

FIBROIDS - MYOMECTOMY

Fibroids are non-cancerous growths in the uterus and majority are asymptomatic (50%), detected on routine ultrasound done for infertility assessment.

- Fibroids can cause various symptoms
- Menstrual abnormalities - excessive and irregular uterine bleeding
- Infertility
- Reproductive issues
- Pelvic pain / pelvic pain
- Pressure symptoms - Constipation, sensation of urination
- The location of the fibroid may play an important role in determining infertility. Fibroid is present inside the uterine cavity, it is called submucosal fibroid. Fibroid present in uterine cavity can be called intramural fibroid and when present on outer surface of uterus, it is termed as subserosal fibroid.
- Subserosal fibroids can cause distortion and enlargement of the uterine cavity which can have an impact on the implantation and growth of the embryo.
- Implantation failure - due to fibroid is because of the disturbance in the blood supply and presence of inflammation in the endometrium.
- Fibroids may also cause irregular uterine contraction which interferes with sperm and ovum transport.
- Fibroids present close to the tubal opening causes tubal obstruction

No long-term medical treatment has been reported. Surgical approach is still the best method to treat fibroid.

The size of the fibroid may represent another important prognostic factor. Any fibroid > 5 cm in diameter requires myomectomy.

Approximately 10% of the women with infertility and fibroids become pregnant after myomectomy.

Myomectomy is a surgical method of removal of fibroid. This procedure helps to preserve uterus and its reproductive potential. Myomectomy can be performed through laparoscopy or hysterectomy based on size and location of fibroid.

Subserosal fibroid requires hysteroscopic approach for myomectomy whereas intramural and submucosal requires laparoscopic approach.

ADENOMYOSIS - ADENOMYOMECTOMY

Adenomyosis is a condition where the endometrium (inner lining of the uterine cavity) grows into the muscle layer of uterus.

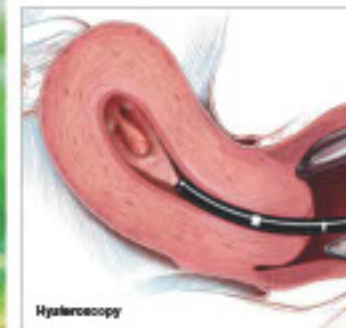
- Dysmenorrhea - Painful periods
- Infertility
- Uterus and Fallopian tube contractions help the sperm to meet the egg in the Fallopian tube. In adenomyosis there is disruption of these good contractions.
- At the time of embryo implantation, adenomyosis causes increase in irregular contraction of the uterus simply making the uterus less able to allow embryo to implant.

HEGDE FERTILITY CENTRE

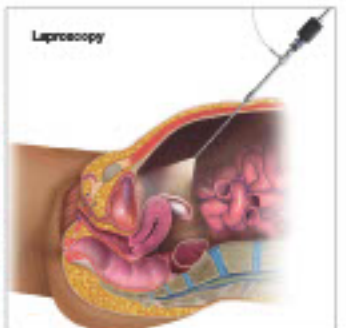
The hospital established its third centre recently at Mysur primarily focusing on Fertility related services and Women Wellness. The centre is dedicated for Infertility Treatment & procedures like IUI, IVE, PGS etc. with the goal of being a centre par excellence with advanced facilities such as a team of the art lab, highly trained experts, a doctor and staff with affordable options for building a couple's dream for a baby.

Hegde Fertility Centre which boasts of one of the highest success rates for infertility treatment, is led by Dr. Vandana Hegde, who is an expert in the field of infertility care and has carved a niche for herself in Assisted Reproductive Treatment by helping many infertile couples to realize their dream of having a baby.

Hegde Fertility Centre now addresses all the needs of couples through a team of highly qualified reproductive



Hysteroscopy



Laparoscopy

Surgical removal of adenomyosis through laparoscopic approach is called adenomyosectomy help to improve fertility outcomes.

ENDOMETRIOSIS

- Endometriosis affects 1 in 10 women during their reproductive years
- The most common symptoms of endometriosis is lower abdominal pain. This may be felt before/during/after menstruation, during ovulation, while passing motions, while passing urine, during or after sexual intercourse
- Other symptoms may occur: the diarrhoea or constipation, abdominal bloating particularly in connection with menstruation, heavy or irregular bleeding during periods can also occur in few



ENDOMETRIOSIS AND INFERTILITY

- Endometriosis causes adhesions in the pelvic cavity can disturb the functioning of the Fallopian tube for the transportation of the egg and sperm.
- Endometriosis altered hormonal functions in the endometrium which can affect embryo implantation

LAPAROSCOPIC ENDOMETRIOTIC CYSTECTOMY

- Surgery performed for ovarian endometriosis > 4cm diameter improves fertility. Because the main way in the management of large endometriosis. Medical therapy alone is not sufficient in its management.
- Surgical approach also includes removal of adhesions due to endometriosis and helps to enhance fertility

OVARIAN DRILLING FOR PCOS

- PCOS (Polycystic ovarian syndrome) is characterized by chronic anovulation (no release of egg) ovulation and hyperandrogenism
- There are fertility medications which help in release of the egg and increase the chance of pregnancy but for some of the women the medication does not work. For these women, surgical procedure called Ovarian drilling is done through laparoscopy

FALLOPIAN TUBE RECANALIZATION

- Tubal recanalization is a procedure done to reverse tubal occlusion and restore the fertility in women.

HYDROSALPINX

- Hydrosalpinx is a condition where there is collection of secretions/fluid in the Fallopian tube. This condition can affect one or both Fallopian tubes
- When far end of the tube gets blocked, the secretion from the Fallopian tube gets accumulated causing the Fallopian tube to distend and enlarge
- The end of Fallopian tube attached to uterus makes open causing intermittent discharge of fluid into the uterine cavity which can be toxic to the embryo or can mechanical flush or sweep away the embryo thus preventing implantation and leading to infertility

Tubal ligation for the hysteroscopy to improve fertility are a fallow

fallow (hysteroscopy - The complete removal of the tube) Tubal dissection - dissection the tube from the uterus. Hysteroscopy is done for diagnostic or operative purposes. Most of the time it is done in a single sitting i.e. to see and treat together. This means that when hysteroscopy is done for diagnostic purposes, and if there is a need for surgery it can be converted into open hysteroscopy in the same sitting.

TYPES OF HYSTERO SCOPIC SURGERY IN INFERTILITY

1. Endometrial Polypectomy
- Endometrial polypectomy is overgrowth of cell lining in the uterine cavity - endometrium.

Symptoms:

- Acyclical spotting
- Intrauterine bleeding
- Prolong bleeding/during periods
- Hysteroscopic removal of polyp in the hysteroscopy for endometrial polyps/uterine polyps.
- 2. Resection of Myoma (such as small fibroid) - Hysteroscopy myomectomy
- Submucosal fibroids are removed with the help of hysteroscopy to enhance fertility cases and prevent repeated miscarriages and preterm labour.
- 3. Division of Intra uterine adhesions
- Asherman's Syndrome or uterine synechiae are adhesions formed inside the uterine cavity

Symptoms:

- Decrease flow during periods
- Absence of periods
- Infertility: Presence of these adhesions prevents healthy endometrium from being formed. This may prevent implantation of the embryo.

Using hysteroscopy the location of adhesions is noted and removed.

4. Division of Intra uterine septum
- The uterine septum is one of the congenital anomalies of the uterus where the uterine cavity is divided longitudinally with a septum.

- Presence of septum can lead to infertility, miscarriage, preterm labour, malpresentation of fetus during pregnancy
- This septum can be removed with hysteroscopy

5. Fallopian Tube Occlusion (FTO)

- When there is a block in proximal part of fallopian tube near the uterine cavity the transportation of the sperm cannot happen leading to infertility. This blockage can be removed by a procedure called fallopian tube resection (FTC).
- FTC requires both hysteroscopy and laparoscopy.

SAFETY AND EFFICIENCY OF HYSTER LAPAROSCOPY

The success of infertility enhancing surgery depends on the expertise of surgeon and use of advanced instruments during surgery. Rapid technological advances and higher quality imaging has allowed laparoscopic surgeons to perform the procedure with less complications. These technological advances have allowed surgeons to treat complex and complicated diseases by Hyster laparoscopy. Newly developed non-invasive device called bipolar dissector as well as ultrasonic technology decrease the operative time, lesser post-operative pain and faster recovery.

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