Hysterectomy

Hysterectomy is one of the most common operations performed on a woman. Hysterectomy is the surgical removal of the womb, i.e., the uterus.Uterus is the seat of the child before birth, and after the woman has completed her family, many consider it a redundant organ, which has a high potential to cause detrimental effects to the life of the woman. On the other hand, many consider the uterus to be pivotal in maintaining their "feminity" and are unduly concerned about hysterectomy. The various aspects of hysterectomy, from indications for hysterectomy, routes of removal, the after effects and potential complications are discussed below.

Q: What are the common indications for hysterectomy?

A:**Indications for hysterectomy are:**

Excessive bleeding during periods. A woman on an average menstruates every 28 to 35 days. She bleeds for 4-7 days, the flow on average being 80ml, where she changes 2 pads per day on the first 2-3 days. Some women bleed more than this from the first onset of periods (menarche) itself and continue till they stop menstruating (menopause). This may happen normally without any pathology. However, when excessive bleeding occurs in a woman from a short period, where she was getting regular periods before, it is a cause of concern. Excessive bleeding during periods, (menorrhagia), could be due to various reasons. Some of them may be amenable to medical treatment. Yet some others may respond to a variety of treatment modalities short of hysterectomy. Some of the conditions, which may necessitate hysterectomy in a patient with abnormal bleeding and the alternative therapies available for these conditions, are listed below.

Dysfunctional uterine bleeding

It means disorderly or heavy menstrual bleeding in a woman, where there does not appear to be any structural abnormality in her pelvic organs. It is usually caused due to abnormal levels of hormones in a woman’s blood . For example a woman may have heavy bleeding and her gynaecologist, on examining her might find normal uterus and no palpable masses anywhere. Ultrasonography, (a modality of investigation used by most gynaecologists to corroborate their clinical findings) may show normal sized uterus and ovaries; such cases generally do not warrant hysterectomy. The modalities of treatment available for such patients are:

1. **Medical treatment** using various hormone preparations or other drugs, which can reduce bleeding. .

2. **Progesterone releasing intrauterine devices**; in patients who cannot tolerate oral medications, progesterone containing intrauterine devices are available in the market for a cost of around Rs.6000-7000. These are t-shaped devices wrapped with coils which release the hormone progesterone continuously for about 5 years. The side effect of this device is the bothersome

intermenstrual bleeding which may come on in the first few months of inserting the devce. If one could tide over this periiod, the rest of the months with this device may be smooth.

3. **Ablation of the endometrium.** In dysfunctional uterine bleeding, since, there is abnormal development and shedding of the endometrium, (The inner lining of the uterus). it may be useful to remove the endometrium to solve the problem. This can be done by a variety of techniques. Some of them are:

a. **Thermal ablation**: A warm solution is passed into a balloon like bag placed inside the uterus. The heat of the solution, passing through the balloon is transmitted onto the endomtetrium, which is dessicated. This procedure can be done in a few minutes time and may not need anaesthesia. The woman, after the procedure may totally stop having periods, or have lighter periods. In the initial few months, a small percentage of women may experience a temporary continuation of heavy bleeding, which can be tided over with drugs. The results are quite satisfactory in 80% of patients. Thus in patients where medical treatment fails, It may be a safer and simpler procedure compared to hysterectomy.

b.**Microwave ablation:** The endometrium is ablated using microwaves.

c. TCRE: Transcervical resection of endometrium. The lining of the uterus, in this procedure, is ablated using electrical energy using hysteroscope, an equipment which is introduced into the uterus through the vagina. This procedure requires a lot of technical expertise and has more reported complications compared to thermal ablation. However, it is a less invasive procedure compared to hysterectomy

Hysterectomy: In patients where the above modalities of treatments either fail, or are not preferred by the patient, hysterectomy or removal of uterus may be resorted to.

Functional uterine bleeding: When a definite cause for bleeding can be found in the reproductive organs to account for the excessive/irregular bleeding, it

could be called functional uterine bleeding. Some of the common conditions necessitating hysterectomy are:

Fibroids

Fibroids are tumours found in the uterus. They are NOT cancerous by nature. Routine ultrasonography done for various symptoms show that fibroids are commonly seen in almost 40% of all women. In many women, fibroids may remain symptom free. However, in some women, it may cause symptoms like excessive bleeding during periods, excessive pain during periods, etc. Some patients get symptoms like increased urinary frequency, or excessive backache or pressure sensation in the pelvis.

The 4 modalities of treatment for fibroids are:

1.Surgery to remove the fibroids only.

2.Surgery to remove the uterus along with the fibroids.

3.Nonsurgical embolization therapy, which will necrotize the fibroids.

4. Medical therapy with injections, which may have a temporary effect.

Hysterectomy as a treatment for fibroids is usually done only in patients who have completed their family. However, hysterectomy being a major surgery, it should be performed on a patient only if she is severely symptomatic. Certain guidelines for performance of hysterectomy are:

A.Documented growth is > 6 cm per year (any age patient)

B.Postmenopausal patient with uterus > 12 week size or fibroid with documented growth rate > 2 cm/year.

C.Patients age 30 years to menopause who do not wish further children

1.Documented fibroid > 20 week size with or without symptoms

2.Documented fibroid 12-20 week size and one of the following:

a.Documented submucous fibroid(fibroids located nearer the middle portion of the

uterus) with persistent bleeding,unresponsive to medical therapy, or

b.Urinary retention, frequency or incontinence or difficulty evacuating stool

c.Uterine bleeding for more than 8-10 days in the last 2 cycles or last 40 days, and

Hb < 10 (or transfusion within the last 6 months), or

d.At least 6 months of moderate to severe pelvic pain, interfering with daily activity

3.Fibroid < 12-week size and one of the following:

a.Documented submucous fibroid with persistent bleeding, unresponsive to medical

therapy, or

b.Uterine bleeding for more than 8-10 days in the last 2 cycles or last 40 days, and

Hgb < 10 (or transfusion within the last 6 months).

Should the uterus be removed in a woman with symptomatic fibroids?

In patients in the reproductive age group, who have completed their family, there may be a debate on the wisdom of removing the uterus in patients with fibroids needing treatment. Removal of the uterus may jeopardize the blood supply to the ovaries and stop its function prematurely. This may lead to the patient getting perimenopausal symptoms like hot flashes, sweating, etc much before the actual time of biological menopause. Hysterectomy is also known to predispose to urinary symptoms later on. In view of all these factors, some doctors prefer not to remove the uterus even if the patient has completed child bearing.

Instead of removing the uterus, myomectomy, a surgery, which removes only the fibroids, is done. Surgery for removing only the fibroids is technically associated with more blood loss. Besides that, the tendency for formation of fibroids being inherent, the patient is also liable to have a recurrence of symptoms. Thus, weighing the pros and cons of hysterectomy vs myomectomy, a mature decision has to be taken.

Adenomyosis:

In this condition, the walls of the uterus are thickened as a whole due to depositions of endometrium(lining of the uterus). The women generally present

with severe abdominal cramps, starting much before the menstrual periods and continuing through out the days of menstruation. Some of them also present with abnormal and heavy uterine bleeding in addition to pain. The only remedy is to take medicines to relieve pain. But if the pain is incapacitating and cannot be controlled with medications, hysterectomy may have to be resorted to.

Severe lower abdominal pain.

Fibroids and adenomyosis, described above could also be causes for painful menstruation and even severe abdominal pain;Besides these causes, abdominal pain could be caused by

1. Endometriosis. 2. Long standing infections. 3. Post-operative adhesions. 4. Pelvic venous congestion.

Endometriosis:

In this condition, there are lots of abnormal tissues found outside the womb or uterus. These are called endometrial implants. These implants cause the organs around the uterus, like ovary, tubes, intestines etc to get stuck to each other and to the uterus. Sometimes, this may cause incapacitating pain to the patient.

Laparoscopy: Inserting an instrument called laparoscope into the abdomen and removing these implants and releasing the organs adherent to each other may provide relief for a long time. However, the condition may recur, as one of the theories for causation of endometriosis is that endometriosis is

caused by the retrograde flow of menstrual blood through the fallopian tubes into the abdomen. What it means is that, menstrual blood, instead of going through the vagina goes retrograde, and goes backwards into the tubes of the uterus and into the abdominal cavity. Science has yet to find a technique to medically prevent endometriosis on a permanent basis. Thus in the woman suffering from endometriosis, there is a high chance of recurrence of the disease.

Medical treatment: The other modality of treatment for endometriosis is medical treatment, which is also temporary. In a very young woman, even if her family is complete, it may be prudent to try medical treatment or conservative surgery like laparoscopic ablation of endometrioid implants and release of adhesions causing pain.

Hysterectomy: In older woman, hysterectomy is the better option. Studies have shown that endometriosis in this subgroup, is best treated by hysterectomy along with removal of both ovaries.

Long-standing infections:

When a woman suffers from repeated infections in her pelvic organs, it may lead to chronic pelvic pain. Hysterectomy for this condition is being done less and less frequently. However, some patients tired of long standing medical therapy may prefer hysterectomy.

Cervicitis:

Long standing infection in the cervix (the mouth of the uterus) might lead to inflammation in the cervix, which is called cervicitis. This causes abnormal vaginal discharge, and in some women, a nagging pain in the lower back. In the past if this complaint was not amenable to medical treatment, hysterectomy was done to relieve the patient of pain. Now, there are many modalities of treatments, like cryosurgery, laser ablation, etc, which could assist in the healing of the cervix. Thus hysterectomy is now seldom done for this complaint.

Post-operative adhesions:

Any patient who has undergone surgery can have intestines stuck to her uterus. This can cause intermittent pain in the abdomen. It generally happens when food passes through this segment of the intestine. At other times the patient feels all right. It is difficult to diagnose this condition on ultrasound scan and the pain being only intermittent, many of the patient's relatives or friends may attribute the pain to mental tension and this prolongs the patient's agony. Finally out of frustration, many a gynaecologist may end up doing a hysterectomy for this condition. However, laparoscopic release of adhesions is the correct treatment for this condition and not hysterectomy.

Pelvic venous congestion

Pelvic venous congestion is a condition where there are dilated veins by the side of the ovaries. This may cause nagging pain in the pelvis, white discharge, painful intercourse, etc. Again, the only way

to diagnose this condition is through the laparoscope or through a specialized investigation called the pelvic angiogram. Treatment for this condition is medical and not surgical. When nagging pain keeps on recurring, many a patient might end up with a hysterectomy thinking that removal of uterus will end all problems. However, pain caused by pelvic venous congestion will not stop with

hysterectomy. Even after hysterectomy, the patient may need continued medical treatment. In fact, medical treatment is the only solution to this condition and not hysterectomy.

Prolapse of the uterus:

The uterus, descends to due weakness in it's supporting structures called ligaments. This gives the patient a feeling of some organ coming down in her vagina. In later years of the post menopausal stage, in a majority of patients, descent of the uterus is usually accompanied by descent of bladder and rectum causing symptoms of incomplete evacuation of urine and also incomplete defaecation. In India, such patients are cured by vaginal hysterectomy with tightening of bladder and rectum. However, recently a lot of procedures, where meshes are placed in the vagina to elevate the uterus and bladder and rectum have come, but due to the meshes being costly and due to paucity of enough controlled studies espousing the use of these meshes, they have not come into vogue much in India.

Tumours in the pelvis:

Cancer and precancerous lesions of the cervix :

Precancerous lesions of the cervix like dysplasias and non-invasive precancerous cancer-in-situ can normally be treated with excision of the lesion and surrounding cervix. However, in India, women generally prefer definitive surgery and thus prefer hysterectomy even for such lesions.

Established Cancer of the cervix should be treated by an extended hysterectomy. When hysterectomy is done for such patients, it has to be accompanied by removal of all the lymph nodes, which drain the organ. These are small white peanut like structures lying in clusters in various parts of the body. Removal of these nodes along with hysterectomy needs expertise and is fraught with a higher complication rate compared to ordinary hysterectomy.

Cancer of the endometrium : In this condition, hysterectomy with removal of both ovaries is the only answer.

Cancer of the ovary: In this condition, uterus and both ovaries along with a lot of extensive surgery may sometimes be needed.

What are the various ways in which hysterectomy could be done?

A: Hysterectomy or removal of the uterus is being done by various methods today.

Abdominal hysterectomy:

Hysterectomy is traditionally performed through the abdominal route when the uterus is not prolapsed. A 6-10cm cut is made in the abdomen either just above the hairline or in some cases, vertically somewhere in the middle of the lower abdomen.

Hysterectomy done in this manner is associated with pain in the days following surgery at the incision site. The patient is kept in the hospital for 5-7 days depending on the time taken for removing the stitches and wound healing. The patient has to convalesce at home for a month and she has to avoid lifting heavy objects for 6 months, the time taken for internal defects to heal. In the first few days after surgery, generally there is some amount of pain and assistance may be needed for getting up from bed, moving towards the toilet, etc, as abdominal incisions tend to be painful. The degree of mobility achieved by a patient after surgery varies from patient to patient depending on each patient's pain threshold, length of incision, etc.

Vaginal hysterectomy:

Uterus is closest to the natural opening in the woman, the vagina. When hysterectomy is done vaginally, a cut is made into the vagina, and the attachments of the uterus to the body are severed through the opening thus made and the uterus delivered out. The incision on the vagina does not cause pain to the patient, as it is generally not as sensitive as the skin. Advantages:

1.When the procedure is done entirely through the vaginal route, there is no incision on the abdomen. As there is no incision on the abdomen, there is no chance of wound infection or incisional hernia.

2.The patient has very little pain and is very comfortable while bending, turning over, walking, etc from the second day itself after surgery. The patients normally go home on the 3rd post-operative day and are even allowed to travel by bus**.** They can resume normal duties within 7-10 days of surgery.

3.Internationally, various studies have shown that ureteric injuries are fewer when hysterectomy is performed this way.

Disadvantage: Technically vaginal hysterectomy is more difficult to perform for the average gynaecologist and thus the facility is available only in selected

centers with gynaecologists trained in the procedure. The cost of therapy is the same for both the procedures.

Laparoscopic hysterectomy:

Hysterectomy is completed using an instrument called the laparoscope. Laparoscope is an instrument through which the contents of the abdomen are visualized through a telescope introduced through a small 1cm incision below or in the umbilicus. The intra-abdominal organs are visualized on a TV screen via a CCD camera fitted on to the telescope. The connections of the uterus are severed through instruments inserted through small 5mm incisions on the abdomen and the final removal achieved through the vagina.

Laparoscopic assisted vaginal hysterectomy:

Sometimes, parts of the connections are released laparoscopically and the rest released vaginally. This is called laparoscopic assisted vaginal hysterectomy (LAVH). The after effects of hysterectomy are the same as if the procedure is done vaginally. There is minimal pain and hospital stay is reduced.

Total laparoscopic hysterectomy: The connections of the vagina to the body are not interfered with, and the whole procedure of hysterectomy is performed laparoscopically,.

Which is the best route of hysterectomy?

Hysterectomy done by the vaginal or laparoscopic method is definінitely advantageous to the patient by way of comfort in the post-operative period as compared to abdominal hysterectomy. However, as traditionally hysterectomy was done by the abdominal route, the average gynaecologist is trained to do abdominal hysterectomy for most indications, except when the uterus is prolapsed.

Vaginal hysterectomy in a non descent uterus, laparoscopic hysterectomy, etc require special training, commitment on the part of the surgeon, and specialized equipment and back-up facilities like staff who can help use the instruments. Thus the odds that the procedure will be completed without opening the abdomen when the procedure is posted for laparoscopic or vaginal hysterectomy depends a lot on the skill of the operator.

The degree of pain after these procedures depends a lot on the indication for which hysterectomy is done and the amount of manipulations the operating surgeon does while doing surgery. Patients who have a lot of adhesions in the abdomen do tend to get more pain than patients who have no adhesions.

Adhesions are found in patients with history of previous surgery, history of infections,in patients with endometriosis, etc.

It is claimed that laparoscopic surgery is assossiated with less pain compared to vaginal hysterectomy, but we do not have large studies to vouch for the fact.

Besides pain, larger uteri and presence of adhesions make hysterectomy more difficult whichever the route employed. Thus, when hysterectomy is done for large fibroids, or for women who have undergone surgery before, there is a greater tendency for the surgeon to employ the abdominal route for surgery. If the case is posted for vaginal/laparoscopic hysterectomy, there is a greater chance for inadvertent opening of the abdomen. In the hands of experts, there is less likelihood for opening the abdomen even when hysterectomy is done for such indications.

There is less chance for ureteric injuries when hysterectomy is done entirely through the vaginal route.

Otherwise, injury rates are comparable by all methods. Ureteric injuries were supposed to be higher in the laparoscopic group when staplers were used to clamp vessels. Most surgeons in India do not use this equipment, being costly.

There are a few surgeons in India and abroad who do laparoscopic hysterectomy and send their patients home in a few hours. These are exceptions and not the rule and cannot be applied to all centres doing laparoscopic surgery.

Thus the choice of hysterectomy largely lie in the hands of the surgeon doing the surgery, depending on the skill and expertise available in her/his hands and the facilities available in that particular centre. Opening the abdomen for hysterectomy is not needed often in good laparoscopic centres and laparoscopic/vaginal surgery should be the best option for the patient who has access to such centres.

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