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EDITORIAL

WHITHER HYSTERECTOMY ?

Thanks to the rapid and innovative developments in the field of endoscopic and allied equipments, endoscopic surgery or minimal invasive surgery is now firmly established in many surgical specialities. In this revolutionary development, gynaecologists have been in the forefront. Hysterectomy is the most commonly performed major gynaecological operation. The traditional surgical removal of the uterus is in danger of being replaced in many cases by either laparoscopic hysterectomy or hysteroscopic ablation or resection of the endometrium.

Laparoscopic hysterectomy, except in the skilled and ingenious hands of Semm, requires to be completed by vaginal route. Besides, it needs considerable expertise in laparoscopy and a

specialised training. It is not adequately evaluated yet. Its superiority over standard surgery for removal of the uterus - by abdominal and especially by vaginal route - is far from established. Controlled trials to compare laparoscopic hysterectomy with abdominal hysterectomy on the one hand and with vaginal hysterectomy on the other hand are yet to come. Although laparoscopic hysterectomy appears glamorous, an average gynaecologist is not likely to resort to it in the near future.

A significant percentage of hysterectomies, roughly estimated as 30 to 35%, are being performed for disabling menorrhagia or metrorrhagia without significant pelvic pathology. Since hormonal imbalance is believed to be the etiology,

medical treatment mainly based on endometrial curettage and administration of hormones is the sheet anchor of management. When this fails to give relief, gives only temporary relief, produces side effects, patient compliance is wanting and gynaecologists' patience is exhausted surgical treatment is considered. Since surgery cannot remove the root cause it only amounts to symptomatic treatment by removing the target organ viz the uterus. Hysterectomy carries some mortality though small and considerable morbidity though much of it is minor. But is it necessary to remove the uterus since the target organ is merely the endometrium? Would removal or destruction of the endometrium not achieve the same results? This line of thinking is not new. Over many decades the destructive effects of chemical agents like quinacrine, silver nitrate, formalin etc and of superheated steam, antologous fibroblast implants and cryocoagulation on the endometrium have been studied. But full thickness destruction of the entire endometrium could not be achieved and eventually amazing regeneration of the endometrium followed and symptoms recurred. In the last decade, however, two effective techniques have been developed viz endometrial ablation by laser and endometrial resection by electrocautery—both performed through the hysteroscope. Both are designed to destroy the complete thickness, inclusive of the basal layer, of the whole of the endometrium. For this purpose 4 mm depth of tissue destruction is enough while 20 mm thickness of the endometrium offers adequate safety buffer against damage to intraperitoneal organs. In addition, reduction in the thickness of the endometrium by preoperative treatment with drugs like LHRH agonist, danazol, progestogens or even combined contraceptive pill ensure that basal layer of the endometrium is destroyed or removed. LHRH

agonist and danazol, are very efficient for this purpose.

For endometrial ablation neodymium : yttrium-aluminium-garnet (Nd : YAG) laser is employed since it can be delivered through a 600 micron narrow diameter flexible quartz fibre and through the liquid media that most gynaecologists prefer. This laser energy causes heating, coagulation, evaporation, carbonisation and destruction of tissues 4-5 mm deep. The prohibitive cost of the equipment would make its deployment unlikely in our country except in very few institutions.

Transcervical resection of the endometrium (TCRE) by electrocautery as advocated by Magos is certainly going to be used widely in our country in near future. A 26 French gauge dual channel resectoscope equipped with 4 mm 30° hysteroscope and 24 French gauge cutting loop is ideal for the purpose. A nonelectrolytic fluid is used for distending and irrigating the uterus. 1.5% glycine is preferred to the viscous dextran 70 (Hyscon). Sorbitol and mannitol are other alternatives. The fluid is pumped in the uterus by a simple sphygmomanometer cuff wrapped around its bag to achieve intrauterine pressure of 80-120 mm Hg necessary for good vision and safe surgery. Sophisticated and expensive devices like Quinones pump or Hammou hysterosmat are not mandatory. Higher pressure leads to greater absorption of the fluid resulting in dangerous circulatory overload. Continuous suction of minus 50 mm Hg pressure is applied to the outer channel to achieve efficient irrigation. Precise control of uterine distention and irrigation is the key to efficient and safe surgery. Video monitoring adds to surgeon's comfort and facilitates teaching and training. After thorough inspection of the uterine cavity and identification

of tubal openings the endometrium is systematically resected beginning at the fundus, followed by posterior wall and lastly the anterior wall. Submucous fibroids, if any, can also be safely resected especially if not bigger than 5 cm in size. Resection should stop at circular fibres of the myometrium. Deeper resection could open up blood vessels and results in heavy bleeding and dangerous absorption of the irrigant fluid. Haemorrhage can be controlled, when necessary, by inserting 30 ml capacity Foley's catheter, distending its bulb by 10 ml. fluid and leaving it in for 6-8 hours. The entire procedure can be carried out in about 20 minutes under intravenous sedation with local anaesthesia in the form of paracervical, intracervical and intra-uterine infiltration with xylocaine with adrenaline. The resected endometrium should be submitted for histopathological study. The patient can go home on the day of surgery. The immense benefits of this surgery to the patient are avoidance of major surgery and its sequelae, no need of general anaesthesia, very short hospital stay, quick recovery to normal activity and lesser cost of treatment.

Like any other surgical procedure, TCRE also has its quota of complications. Perforation of the uterus is reported in 1.6%. It can result in trauma to large vessels, bowels and urinary tract besides fluid overload. Even resultant mortalities are reported. Absorption of large quantities of fluid used for irrigation can be fatal due to fluid overload as manifested by hypertension, hyponatraemia, neurological complications, hemolysis and coma. Fluid overload is reported in 3% and even deaths have occurred as a result. Precise measurement of the fluid absorbed as calculated by the difference between the volume of fluid pumped in the uterus and that removed by suction is very crucial. Fluid absorption of

upto one litre is safe beyond which mild hyponatraemia is likely to set in and surgery needs to be completed quickly. Absorption of more than 2 litres necessitates stoppage of surgery for fear of severe hyponatraemia and allied sequelae. Haemorrhage during and after surgery and infection are other likely complications. In practice, one need not worry about the possibility of haematometra developing or pregnancy occurring after TCRE. However, long term studies in future may quantify the possibility of such risks, if any, as also the risk of malignancy developing in the residual uterine cavity.

Partial resection at TCRE can be undertaken when patient is keen to retain menstruation while desiring relief from heavy menstrual blood loss. During partial resection, endometrium within 5 to 10 mm of internal cervical os is left intact. It should, however be noted that even after total resection amenorrhoea is achieved in only about half of the patients while most of the rest have hypomenorrhoea. Very few require repeat ablation or hysterectomy.

TCRE, by virtue of its apparent simplicity, is likely to be misused and abused and likely to be undertaken by gynaecologists without proper training. An expertise in diagnostic hysterectomy and proper training in TCRE is absolutely necessary before one undertakes the procedure. Proper selection of patients is equally important. Patient must be suffering from heavy menstrual bleeding not responsive to medical therapy and hence in need of hysterectomy. Any possibility of endometrial malignancy must have been excluded. The uterus must not be larger than 12 weeks pregnancy size and must not harbour submucous fibroids larger than 5 cm. Needless to say that pathologies like genital prolapse, CIN, TO masses, PID, endometriosis, ovarian tumours

etc render TCRE superfluous and undesirable since they dictate specific treatment, surgical and/or medical.

Electrocoagulation of the endometrium by a resectoscope equipped with 2 mm rollerball electrode instead of the cutting loop is also being tried. This is technically easier and safer too, because the risk of perforation is much less. It gives results comparable to those of TCRE but cannot deal with submucous fibroids.

Another approach to the problem being tried out by Phipps and his colleagues is Radiofrequency - induced thermal endometrial ablation (RITEA). A 1 cm diameter angled probe is inserted in the uterine cavity employing a vaginal guard and after dilating the cervix to 10 mm under general anaesthesia. The probe delivers radiofrequency electromagnetic thermal energy heating the endometrium to upto 66°C. The probe is rotated through 360° over a period of 20

min. Amenorrhoea results in 30% while 85% show relief from menstrual symptoms. It is a simple technique not needing specialised surgical skill. But it is not suitable for patients with large size uterus, irregular uterine cavity and fibroids. Vesicovaginal fistula has been reported. Besides there is a frightening possibility of unrecognised uterine perforation occurring during surgery with disastrous consequences.

As at present, TCRE is an acceptable and preferable alternative to hysterectomy for menstrual problems not amenable to medical treatment. Its limitations must be realised, its complications must not be lost sight of and it must be undertaken only after obtaining requisite training. Hysterectomy done solely for the relief of intractable abnormal menstrual bleeding in a patient with no pelvic pathology is on its way out, while minimally invasive laparoscopic hysterectomy is threatening to replace traditional hysterectomy in certain other situations.

Mahendra N. Parikh

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