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DGES Secretariat:
Jeewan Mala Hospital
67/1, New Rohtak Road, New Delhi 110005
Tel.: 011-40043355, 47774141, 23511474, 65094990
M: +91 9212150571, 9212526855, 9811557511
Email: dgesjmh2017@gmail.com, www.dges.in

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From the Desk of President

Dear DGES Members,

It was an honor for me to serve as President of one of the oldest endoscopic organization. As my term comes to an end let me first start by thanking all my fellow members and my seniors for having supported me in these 2 years. DGES has come a long way since I took over and I am proud of the entire executive committee's commitment and hard work in driving these 2 years.

I have always believed that one of the essential reasons to move forward with our initiatives is through partnerships and alliances. I feel that no organization alone can make advances without working with other similarly focused societies or organizations. With this mindset we collaborated with the European Society of Gynaecological Endoscopy (ESGE) this year and have organized one of 2018's mega conference at Hotel Le Meridian on 17th - 18th & 19th August. Indian stalwarts along with International operating faculty would be showcasing latest surgical techniques and would be talking about advancements in the field of Gynae-endoscopy at this International level event.

I am extremely proud of what we have been able to accomplish over the last 2 years. It was truly an honor to have been given the opportunity to work with my Organizing Committee. I was indebted to see many of the issues that we took up when I took over as president have been resolved, and DGES is moving forward into an even more compelling future.

Going forward, I believe it is imperative for all of us to focus on educational activities related to the field of gynae endoscopy in medical colleges. That's how, I feel we shall ensure that young budding gynecologists are moving towards improving their skill sets. Focus for us as a society should also be to increase membership of DGES.

As a committed member of this prestigious society I look forward to sharing many more of these strategic initiatives with all of you in the coming years and congratulate you for a successful 2-year term.

Malvika Sabharwal
Padmashri Awardee
President, Delhi Gynaecologists Endoscopists Society (DGES)
Past Managing Comittee Member IAGE
Exec. Member of Association of Obstetrician and Gynaecologists of Delhi (AOGD)
Director, Department of Obstetrics & Gynaecology
Jeewan Mala and Apollo Spectra Hospital, Karol Bagh, New Delhi, India
M.: +91-9810116293 • Email: drmalvika@jmh.in, jmh.cme@gmail.com
website: www.jmh.in

From the Honorary Secretary

It has been a privilege and pleasure for me to serve as secretary of Delhi Gynecologists Endoscopy Society. Established in 1993, it has since then grown into an organization dedicated towards the passion of Endoscopy. Endoscopic Surgery in Gynecology has been crossing boundaries and it is in the interest of all Gynaecologists to enhance their skill sets.

DGES has been actively involved in training in the Capital region of Delhi-NCR. I am happy to let you know that in the past two years of our term we have successfully organized many high-quality live workshops and scientific program. It was very important for us to strike a balance between various specialties in Endoscopic Surgeries. We did this in a very methodical manner.

In this present era, it is imperative for endoscopy to become mandatory in the Postgraduate curriculum. DGES has completed basic endoscopic modules in Safdarjung hospital and in Lady Hardinge Medical College. We have ensured in that in the past 2 years we imparted basic training to the young enthusiastic gynecologists coming out of these reputed hospitals.

The Annual conference of DGES and IAGE (North Zone) was held on 25th-27th August 2017 Attended by over 350 delegates from India and neighboring countries the theme of the conference was “Safe endoscopy for all”. On Day 1, there were two Precongress workshops on Endo suturing and Hysteroscopy where 60 delegates actively participated and were well appreciated. Day 2 was Live surgical satellite relay from Apollo Spectra Hospital performed by stalwarts of different Endoscopic surgeries. The Scientific session was conducted on 27th August 2017. Pertinent selected topics and interactive sessions put across the theme of the conference clearly.

Indian Journal of Gynaecological Endoscopy was released by Mr. C. K Mishra, Health Secretary, Govt. of India who also graced the occasion as the Chief Guest.

2018 was a special year since DGES had the privilege of getting collaborated with ESGE (European Society for Gynaecological Endoscopy) for the first time and we have organized an International Conference at Le Meridian Hotel, New Delhi. We hope to apprise you of standards of management and what’s new in this field.

Thank you for showing trust and wishing you all lots of knowledge and prosperity in your endoscopic skills.

Shivani Sabharwal

From the Editor's Desk

Dear Members,

Greetings

We are extremely delighted to present you yet another issue of the Indian Journal of Gynecological Endoscopy. The theme for this issue is "Safe Hysteroscopy". Medicine is an ever-evolving discipline but to reach the zenith, the foundation must be strong. To strengthen the basics in hysteroscopy, we have a review article by Dr Amita Suneja "A road map to safe hysteroscopy" which will empower our budding endoscopists to undertake hysteroscopy with more confidence. Adenomyosis is complicated by histological diversity and poses a challenge to the treating gynecologist especially where fertility preservation is desired. Minimally invasive and uterus-sparing surgeries have been reviewed critically in the section Journal scan. In our section on meet our Legends we present to you Dr Alka Kriplani a doyen in the field of endoscopy, an excellent academician and a brilliant teacher who has taken the field of Gynecology to new horizons. Her vision to train young doctors in endoscopy has brought immense talent to the forefront. In our debate section we have addressed an important controversy as to how to treat a large submucous fibroid surgically; hysteroscopic vs laparoscopic approach. It is debated upon by two eminent endoscopists whereas Dr KK Roy has emphasized on hysteroscopic management Dr Urvashi Jha has focused on the laparoscopic approach. Interesting case reports have been included showcasing the wide spectrum of diseases managed by minimally invasive surgery. This edition also has the abstracts of the free papers and videos to be presented in the forthcoming DGES annual conference 2018.

Time flies so has the term of the current office bearers of DGES. This November the editorial board completes its term, so it is my pleasant duty to thank all those who have made significant contributions in this venture. Dr Malvika and Dr Shivani the President and Secretary DGES made a great team and took forward the objectives of this Association. My co-editors Dr Shilpi and Dr Sheetal deserve a special applause for their efforts and valuable contributions. It is always a pleasure working with Mr Rakesh Ahuja and his team, appreciate their promptness and diligence. Thanks to Neha for her support.

Happy reading!!

Manju Puri
Editor

Sheetal Sabherwal, Shilpi Nain
Co Editors

REVIEW ARTICLE

Roadmap to Safe Hysteroscopy

Amita Suneja*, Varsha Priyadarshini**
*Director Professor & Head, **Senior Resident, Department of Obstetrics & Gynaecology, UCMS & GTB Hospital, Delhi

A gynecologist's armamentarium is incomplete without hysteroscopy in modern practice. Most common conditions for which hysteroscopy is undertaken are abnormal uterine bleeding, infertility, suspected Asherman syndrome and uterine anomalies. Traditional methods like dilatation and curettage (D&C) and hysterosalpingography (HSG) used for evaluation and management of these conditions were associated with higher complication and failure rates owing to their blind nature. Hysterectomy was a radical treatment offered for some of these local uterine pathologies like endometrial polyps, submucosal fibroids with significant postoperative morbidity. The advent of hysteroscopy circumvented these problems. It provided direct visualization of uterine cavity and offered a more conservative treatment for these local pathologies in the form of resection of myoma, endometrial ablation, endometrial polypectomy, septum resection, etc.[1-3]

Safety Profile

Hysteroscopy had to travel a tough road to reach the point of efficacy and safety for which it is known today. Currently diagnostic and operative hysteroscopy has become safe practice and has almost replaced D&C and hysterectomy for a myriad of uterine abnormalities[1-3]. Hysteroscopy safe as it may be, is not immune to complications. Diagnostic hysteroscopy has a good safety profile and majority of complications occur with operative hysteroscopy.

Broadly hysteroscopy related complications can be divided into two categories[4] (Table 1):

Table 1: Complications of hysteroscopy

Technique-related	Distention media-related
Uterine perforation	Fluid overload
Hemorrhage	Electrolyte abnormalities
Vasovagal attacks, pain	Air embolism
Complications of anesthesia	Media-specific complications
Infections: endometritis	

Technique related Complications

Uterine Perforation

It is well known that almost half of the uterine perforations in hysteroscopy are entry related, i.e. while inserting cervical dilators and or hysteroscopes[6]. The rest half can be attributed to improper technique used during the procedure. Studies have reported the perforation rate to range from 0.007-1.7% with higher rates seen in operative procedures. There are certain inherent risk factors like cervical stenosis, tortuous cervical canal and deviated uterine cavity that pose more risk of perforation.[6] The probability of uterine perforation is maximum with Asherman syndrome[7].

Certain practices, if followed, can prevent many uterine perforations[6].

1. The gynecologist should be aware of the position of the uterus before performing the procedure. Most of the uterine perforations occur through the anterior wall in a retroverted uterus. A pre-procedural bimanual examination of the uterus or a pelvic ultrasound to know the position of the uterus should be a routine practice[6]
2. Whether sounding should be done as a routine before the procedure is debatable as sound is introduced blindly into the uterus and poses its own risk of perforation[6]
3. Cervical dilation is mostly needed for operative hysteroscopy and sometimes for diagnostic hysteroscopy especially with hysteroscopes with an outer diameter >5mm. Cervical dilation, whenever needed, should be performed by gradual serial dilation using half-size dilators. Excessive force should be avoided. With the advent of newer miniature hysteroscopes with outer diameter <5mm (2.7- 3mm), cervical dilation is not needed, and hence uterine perforations are less common
4. The gynecologist should be aware of the proper technique of the insertion of the hysteroscope. As already stated, commonest site of uterine

perforation is the anterior uterine wall. Hence in an anteverted uterus, hysteroscope should be guided along the posterior wall and the internal os should be kept in the 6 o' clock position while in a retroverted uterus the hysteroscope should be guided along the anterior wall of the cervix keeping the internal os at the 12 o' clock position (Fig. 1)[6]

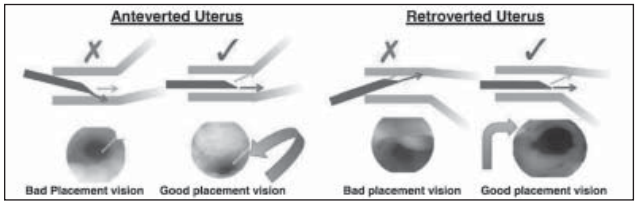

Fig 1: Correct technique to position the hysteroscope with respect to internal cervical os using a 30° hysteroscope[6]

5. Usage of polyp forceps and uterine curette for specimen retrieval is a blind technique and hence poses further risk of perforation. Newer hysteroscopes like myosure and resectoscopes allow specimen retrieval under vision[6]
6. High degree of suspicion for uterine perforation should be kept, especially if there is sudden loss of vision due to collapse of the uterine walls or a large deficit in the distention medium is noted. Performing post procedure cavity checks is a good practice and can identify any unsuspected uterine perforation that was missed (Fig. 2)[6]

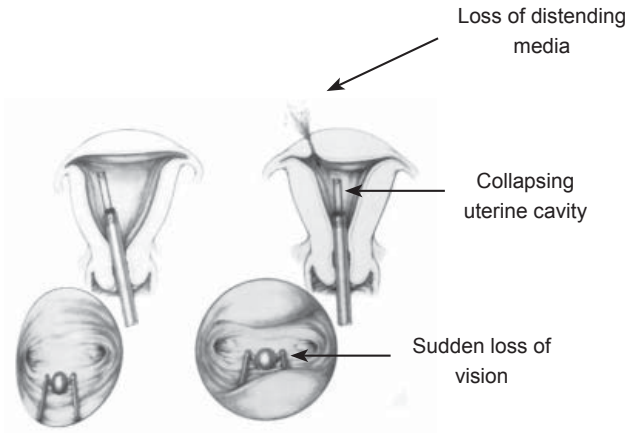

Fig 2: Perforation is suspected when there is sudden loss of distending media causing collapse of uterine cavity around the hysteroscope and hence loss of vision (Operative Gynecology by Telinde)

7. Cervical priming with vaginal prostaglandins or laminaria tents is generally not required for diagnostic hysteroscopy but is useful before operative procedures in nulliparous women and in patients with cervical stenosis as it reduces the risk of uterine perforation.[5,8] We have used intracervical dilapan 4-6 hours before hysteroscopy and found it to be especially useful for Asherman syndrome, it increases the diameter of os up to 7 mm and opens up the isthmic portion of the uterus (unpublished data)
8. Ultrasound guided uterine resection of septum or synechiae has been shown to have a lower risk of perforation and can be used in preference over laparoscopic guidance[9]
9. Perforation with energy sources demands exploratory laparotomy to look for injuries to bowel or bladder.

Authors of this article have witnessed three uterine perforations, two of these happened while doing over enthusiastic adhesiolysis for Asherman syndrome grade 4. Both were managed conservatively. One perforation happened while doing myoma resection with energy source under laparoscopic guidance. Bowel was inspected with laparoscope and laparotomy was not done. On 7th post-operative day she had melena signifying thermal damage to the bowel, however she responded to conservative management. Later she conceived and was delivered by elective cesarean section.

Hemorrhage

Hemorrhage during operative procedures is not uncommon. Greater risk of hemorrhage is seen with hysteroscopic adhesiolysis compared to myoma or polyp resections and endometrial ablations[4]. Use of cautery in hysteroscopy has helped immensely in controlling small bleeders. Intracervical injection of dilute vasopressin at 12, 3, 6 and 9 o'clock positions on ectocervix with 20 ml of dilute vasopressin (20 units diluted in 100 ml of normal saline) has been used to control intraoperative hemorrhage and fluid intravasation[10,11]. Care should be taken with use of vasopressin to avoid intravascular injection as the later can cause hypertension and bradycardia[11]. Few RCTs have reported 3-month preoperative use of GnRH analogues 3.75 mg leuprolide IM monthly before myoma resections to decrease the incidence of hemorrhage and also decrease the volume of fluid intravasated[12,13]. Care should be taken to avoid hysteroscopy during first 2-3 weeks of administering these agents, owing to their stimulatory effect on endometrial cavity. These agents reduce the volume

of intramural fibroids and uterine volume more than that of submucous myomas thus facilitating the extrusion of submucous myomas more in the uterine cavity and aiding in their resection. However, the evidence regarding their use is insufficient and more trials are needed before prescribing routine use of GnRH analogues for hysteroscopic myomectomies[14]. Uncontrolled hemorrhage can be dealt with by abandoning the procedure and tamponading the uterine cavity with Foley's bulb inflated by 10-30 cc of normal saline[4,15]. Hysterectomy, of course is reserved as a last option for bleeding resistant to all prior interventions[4,15].

Endometritis

The risk of postoperative endometritis is very low in hysteroscopy. High risk factor for the development of the same is preexisting pelvic inflammatory disease, which should be treated preoperatively and hysteroscopy is best delayed in these patients. Routine use of preoperative antibiotics is not recommended but should be used whenever infection is suspected before taking up the patient for hysteroscopy[5].

Pain, Vasovagal Attacks, Anesthesia related Complications

Pain and vasovagal attacks are commonly associated with cervical dilatation and use of tenaculum on cervix. It is a cause of anxiety amongst patients.

Certain measures to overcome these problems are as follows:

1. Its preferable to use oral prostaglandin synthetase inhibitors half to one hour before hysteroscopic procedures to alleviate pain. Use of paracervical block has been shown to decrease pain associated with cervical dilatation. Application of topical anesthetics over the cervix before holding it with a tenaculum is also an effective method of reducing pain. Studies have shown that injection of anesthetic agents in intracervical canal reduces the risk of vasovagal attacks[16].
2. Office hysteroscopy: The standard hysteroscopes used for diagnostic purposes have an outer diameter (OD) of ≥5 mm and require the use of cervical dilatation prior to their insertion. Cervical dilatation causes patient discomfort, pain and vasovagal reaction. The introduction of mini-hysteroscopes (<5mm) after 1980 brought office hysteroscopy into the mainstream of gynecological practice[17-19]. It has been observed that the use of mini-hysteroscopes obviate the need for cervical dilatation and therefore decreased the associated complications[17]. The reported efficacy of this technique is high with almost 90 percent accurate diagnosis[21,22]. The use of hysteroscopy in office setting also helps the patient to avoid a formal operation theatre setting and associated anxiety, and risks of anesthesia [20,21]. Hence in the light of decreased complications, less pain, more acceptability and reduced costs, office hysteroscopy is a landmark in the development of safe hysteroscopy.
3. Vaginoscopy: The use of tenaculum and speculum while insertion of hysteroscope is a cause of major discomfort and pain, even with the use of miniature hysteroscopes. This can be avoided by vaginoscopy (No-touch technique) where the hysteroscope is negotiated through the vagina and then the cervical canal under vision and fluid distention[22-24]. The distention media used with this procedure is commonly normal saline. Not only does it avoid the use of vaginal specula or tenaculum to steady the cervix, but also lower risk of creating false tracts[22-24]. To avoid leakage of media from the vaginal orifice one can use Trendelenburg tilt, but a better way is to manually occlude the orifice by pressing the labia minora together[24]. The French Society of Obstetricians and Gynecologists recommends vaginoscopy as a standard method of outpatient hysteroscopy in their guidelines for reducing complications in hysteroscopy[25].

Media related Complications

In the earlier days, contact hysteroscopy was performed without the use of distention medium. It is obsolete now because not only did it fail to provide a panoramic view of the uterus but also posed more risk of complications like perforations and chances of missing focal pathology[11]. The use of distention media circumvented both problems. However, it soon became apparent that these media had their own set of complications. Hence search for an ideal distention medium was started and is still continuing.

The most common distention media used in current practice are CO2, normal saline, glycine 1.5% and sorbitol 3%. The media related complications can be divided into three broad categories.

Fluid Overload and Electrolyte Imbalance

It is the most common complication associated with fluid distention media and is more commonly seen with hypo-osmolar media (glycine, sorbitol) than iso-osmolar media (normal saline). Hypo-osmolar media are electrolyte free and hence commonly used with monopolar devices like resectoscope. It has been seen that the fluid intravasation or deficit of approximately 1000 ml of hypo-osmolar media like glycine brings the sodium concentration down by 10 mmol and the blood osmolality is maintained. However further intravasation decreases blood osmolality, causing third space loss that is flow of fluid from blood vessels in to interstitial spaces with resultant hyponatremic hypervolemia. If not recognized and treated in early stages it can lead to brain edema, CNS symptoms like lethargy, confusion, irritability, seizures and even coma. Hence the upper limit of safe intravasation or deficit for hypo-osmolar media is up-to 1000ml, although early symptoms of hyponatremia can develop as early as at a fluid deficit of 500 ml. Special care should be taken in elderly, cardiac and renal-disease patients and also in post-menopausal women as estrogens suppress the ATPase pump that regulates flow of ions through blood-brain barrier, thus making them more prone to the effects of hyponatremia and fluid overload and lower limits (<750 ml) of intravasation have been advised for these patients.[26-28]

With the advent of resectoscopes using bipolar current, use of electrolyte rich normal saline has come into practice. Normal saline had the prime advantage of being iso-osmolar and hence does not cause hyponatremia. However fluid overload, pulmonary edema and or cardiac failure can still occur with this medium. Although there are no clear guidelines concerning safe upper limit of iso-osmolar media deficit, it has been arbitrarily set to 2500 ml with lower limits (<1500 ml) for renal failure and cardiac patients.[26-28]

Iso-osmolar fluids should be preferred over hypo-osmolar solutions. However only hypo-osmolar fluid should be used with monopolar devices. Special drapes with fluid reservoirs should be used to measure the outflow to calculate the fluid deficit. Now, advanced fluid delivery devices have come up that collect fluid suctioned back from the cavity and measure the fluid deficit. However, some fluid can still leak from the cervix, thus leading to overestimation of fluid deficit. A dedicated team should be employed to measure the fluid deficit every 10 minutes. The operative time and the intrauterine pressure of distention media should be kept as low as possible and every effort should be made not to exceed mean arterial pressure (70-110 mm Hg). With diagnostic procedures, <50 mm Hg of intrauterine pressure is adequate however with operative procedures, it should be kept between 70-100 mm of Hg.[26-28]

In the post-operative period, high index of suspicion of fluid overload should be kept especially after prolonged procedures and where large uterine sinuses have been opened as with resection of myoma or adhesiolysis, or where there has been significant fluid deficit. Clinicians should be aware of early diagnosis of these complications of hyponatremia and or hypervolemia and its treatment. Serum electrolyte monitoring should be done in these patients. Early cases of hyponatremia and hypervolemia can be treated with fluid restriction and diuretics alone. However symptomatic hyponatremia should be managed with a multidisciplinary team using 3% concentrated saline.[26-28]

Air Embolism

The risk of venous air embolism with operative hysteroscopy is a rare but a dangerous life-threatening complication. Studies have been reported with catastrophic results for the patients post embolism. The risk of embolism is more with the use of CO_2 during operative hysteroscopy and hence gaseous media should not be used with operative hysteroscopy. However, embolism has also been reported with the use of liquid media. This may happen due to air leakage into the uterine cavity due to the air trapped in the tubing of distention medium, hysteroscope, post cervical dilatation or through the space around hysteroscope if the canal is wider than the hysteroscope. If large sinuses are open in the uterus and the pressure in the uterine cavity is high, the air emboli may enter the venous circulation and hence into the right side of the heart and pulmonary circulation. The former can cause cardiovascular collapse while the latter causes ventricular-perfusion mismatch leading to hypoxia. The signs of air embolism are generally first noted by the anesthetist. Patient has sudden hypotension, fall in end tidal CO2 and drop in saturation during the procedure[29].

Important preventive measures to avoid this phenomenon are:

a. CO2 should only be used for diagnostic and not for operative hysteroscopy.[26,29]

b. The hysteroscope and the inflow media tubing must be purged of all air before introducing it into the uterine cavity.[26]

c. Trendelenburg position must be avoided in the patient.[29]

d. The intrauterine pressure of CO2 should be kept below 150 mm Hg and flow rate should not exceed 100 ml/min[15].

e. A time-lapse between cervical dilation and hysteroscope insertion, should be avoided and if there is any, the cervical opening should be closed with pack or vaginal opening be closed or the last cervical dilator should be kept in situ while hysteroscope is being assembled for insertion[29].

f. Cervix should not be dilated more than the outer diameter of the hysteroscope[29].

The anesthetist and the surgeon should be able to recognize early signs and symptoms of venous air embolism as mentioned above. Transesophageal echocardiography, if possible is the most sensitive way to recognize air embolism. Other signs are drop in end tidal CO2 on the capnography, sudden drop in saturation, increase in the central venous pressure and aspiration of bubbles in the central venous line.

Air embolism can be managed by turning the patient to the right side, giving hyperbaric oxygen, infusing saline bolus. The outcome however remains grim[29].

Media Specific

Use of hyperosmolar solution like Hyskon (32% Dextran) had advantages over other solutions owing to its immiscibility with blood and thus better visibility but concerns regarding anaphylactic reactions with the solution and need for proper washing and maintenance of instruments immediately postoperatively is a concern as it dries and forms a crust over the equipment thus damaging it. Hence it is less popular in current practice[15].

Conclusion

Hysteroscopy has revolutionized the field of operative gynecology since its inception. Diagnostic hysteroscopy has an overall low risk profile, lower than operative procedures but the risk of complications in both cases is real and can end up with grave consequences. Many of these complications are avoidable with proper evaluation, use of good technique and media, and early diagnosis of complications. If the same is done, patient compliance to hysteroscopy will increase even more and hysteroscopy shall achieve a new landmark in its roadmap to being one of the safest procedures in gynecology.

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DEBATE

Large Submucous Myoma: Removal by hysteroscopy is a better option than laparoscopic removal

For the Motion

KK Roy, Neha Negi
Department of Obstetrics & Gynecology, AIIMS Delhi

The commonest tumors of female genital tract are uterine leiomyomas. Its incidence is variable depending on various factors like age, race, and geographic location but overall incidence of uterine myomas is 20% to 25% in reproductive age females[1]. Uterine myomas can be intramural, submucous or subserosal. Amongst all types sub mucous leiomyoma accounts for 5.5% to 16.6%[1]. Myomas usually remain asymptomatic but may present with myriad of symptoms like abnormal uterine bleeding (AUB) especially heavy menstrual bleeding (HMB), infertility, recurrent pregnancy loss, and bulk symptoms which is a term used for complaints related to the impact of the enlarged uterus on adjacent structures in the pelvis.

Various classification systems have been developed for submucous leiomyomas especially when considering therapeutic option, surgical approach and feasibility. The most widely used system categorizes the leiomyomas into three subtypes according to proportion of the diameter of the lesion that is within the myometrium[2]. Lasmar et al introduced a new preoperative classification system for submucous myomas in 2005 for evaluating the viability and the degree of difficulty of hysteroscopic myomectomy[3]. Lasmar formulated a scoring system based on the penetration of myoma into the myometrium, extension of the base of myoma with respect to wall of uterus, size of myoma and topography [STEPW] and divided patients according to difficulty in hysteroscopic myomectomy into three groups- score 0-4 (Gp-I), 5-6 (Gp-II), 7-9 (Gp-III).

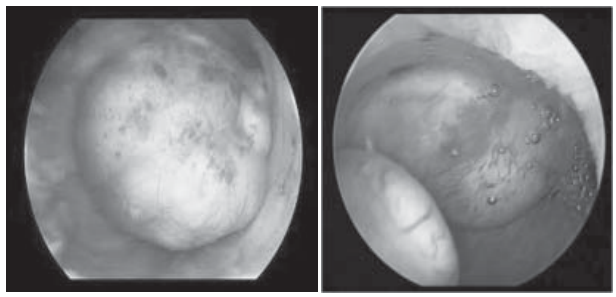
AAGL[4] in 2012 recommended that submucous leiomyomas contribute to infertility, and their removal improves pregnancy rates. Hysteroscopy, infusion sonohysterography (saline solution, gel) and MRI are all highly sensitive and specific for the diagnosis of submucous leiomyomas. Endometrial ablation can be an effective therapy for selected women with type 2 leiomyomas and HMB who do not wish to become pregnant in the future. The preoperative use of GnRHa facilitate the process of treating anemia in women planning surgery for submucous myomas. Hysteroscopic myomectomy with the removal of the entire myoma is effective for the relief of HMB. The risk of monopolar current diversion resulting in lower genital tract burns may be reduced by maintaining contact of the external sheath with the cervix, avoiding activation of the electrosurgical unit when the electrode is not in contact with tissue, ensuring the sustained integrity of the electrode insulation, and minimizing the use of high-voltage (‘‘coagulation’’) current when performing hysteroscopic submucous myomectomy. There may be a role for concomitant laparoscopy or ultrasound when hysteroscopic myomectomy is performed on deep type 2 submucous myomas. Intrauterine adhesions can be minimized if opposing tissue is not resected during a single surgery. Second-look hysteroscopy may be effective for postoperative intrauterine adhesions and thereby could reduce the long-term risk of adhesion formation.

Several surgical techniques have been developed over time for hysteroscopic resection of submucous fibroid. Real challenge lies in removal of large submucous fibroid. Thorough preoperative evaluation is done to minimize the incidence of incomplete resection and the complications that might occur during procedure. Most commonly done investigations for pre-surgical evaluation are office hysteroscopy, transvaginal ultrasound scanning (TVS) and sonohysterography (SHG)[5,6,7]. MRI may be needed in case of a large uterus, with multiple fibroids, or if ultrasound scanning is technically difficult as in obese patients, MRI helps in fibroid mapping and differentiating between fibroids and adenomyosis[8].

Instrument utilized for hysteroscopic myomectomy include operating hysteroscope (Resectoscope). The operating hysteroscope contains a working element wherein electrosurgical (thermal loops and vaporizing electrodes) and mechanical instruments (cold loops) for the traditional resectoscopic surgery

or laser fibres or a new Intra Uterine Morcellator (IUM) device can be attached. The electrosurgical system can use monopolar or bipolar electric current. The use of monopolar electrodes requires non-conducting distending solution (sorbitol 5% or glycine 1.5%). An intrauterine bipolar diathermy allows the use of an electrolitic uterine distension medium (normal saline). Various types of thermal loops with different shapes and sizes are used. Cold loops may also be used. They are used in a mechanical way without electrical energy to carry out the enucleation of the intramural component of the fibroid. Bipolar and monopolar vaporizing electrodes may also be used in resectoscope. Lasers and a new instrument IUM may also be used in the transhysteroscopic approach for the treatment of submucous fibroid. Nd:yAG laser is the most widely used in hysteroscopic surgery. Various hysteroscopic myoma resection techniques have developed according to the type of myoma[9]. Fibroids located completely within the uterine cavity (G0) can be resected hysteroscopically using resectoscopic excision by slicing, cutting of the base of the fibroid and its extraction, ablation by Nd: yAG laser, vaporization of fibroid, morcellation by intrauterine morcellator, office hysteroscopic myomectomy. Hysteroscopic techniques for fibroids with intramural location(G1-G2) include:

- Excision only of the intracavitary component
- Complete excision of fibroid by a two-step procedure: This method is especially used in case of large submucous fibroids. It is based on the observation that during hysteroscopic myomectomy there is rapid migration of residual intramural component of fibroid towards the uterine cavity along with the simultaneous increase in the myometrial thickness[10]. This technique was originally hypothesized by Loffer et al [11]and is currently widely used. It involves first hysteroscopic excision of only the intracavitary portion of the submucous fibroid using a resectoscope. This is followed by a relook diagnostic hysteroscopy after about 4 weeks to assess the intracavitary migration of the residual intramural component of the fibroid. A second hysteroscopic resection is performed for complete excision using resectoscope and slicing the residual fibroid, which has now migrated and becomes intracavitary. First and second operation can be preceded using GnRH agonist therapy if needed.
- Complete excision of fibroid by a one-step procedure: It involves hysteroscopic excision of the intracavitary portion of the fibroid using resectoscope by usual slicing technique. Resection is stopped at the cleavage plane of endometrium and myometrium. Resection is followed by the enucleation of the intramural component of the fibroid using the blunt dissection by cold loop of the resectoscope in a mechanical way. Enucleation is followed by the excision of the intramural component of the fibroid totally inside the uterine cavity and then resected.



- Enucleation in toto:
  - Litta's technique: Litta et al in 2003 proposed a method of hysteroscopic myomectomy which involves an elliptic incision of the endometrial mucosa that covers the fibroid at the level of its reflection on the uterine wall until the cleavage zone of the fibroid is reached. Connecting bridges between fibroid and surrounding myocytes are slowly resected. The effect of such action is that the fibroid protrudes into the cavity, thus facilitating its removal by traditional slicing. The fibroid is pushed into the uterine cavity, enabling the surgeon to work safely and completely resect the intramural component with an angled cutting loop.[12]
  - Lasmar's technique: Lasmar and Barrozo in 2002 proposed a new method of hysteroscopic myomectomy using Collins electrode in shape of a 'L', to dissect the endometrium around the fibroid followed by direct mobilization of the fibroid in all directions, coagulating only the bleeding vessels. When the fibroid is in the cavity it is possible to remove it with grasping forceps (small fibroids) or to slice it in several pieces using the Collins electrode.[13]
  - Hydromassage: Hamou in 1993 proposed this method based on the observation that the intramural portion of a submucous fibroid squeezes out of its base after contractions of the

uterus during the removal of tissue chips. Hamou used an electronically controlled irrigation suction device to produce rapid changes of intrauterine pressure.[14]

- Manual Massage technique: Hallez et al introduced a single-stage technique in which, after a partial myomectomy of the intrauterine component of the fibroid, uterine contractions were induced by finger massage of the uterus like obstetric maneuvers as Crede's, thus expelling the residual intramural fibroid into the uterine cavity and making it accessible for a safe hysteroscopic resection.[15]

Zayed M et al evaluated in a prospective study the feasibility and efficacy of hysteroscopic myomectomy of large submucous myomas in a 1-step procedure using multiple slicing sessions technique in forty-nine patients with submucous myomas >4 cm in diameter complaining of abnormal uterine bleeding and seventeen patients complaining of infertility. In this technique the intrauterine portion of submucous myomas was resected using the slicing technique. Slicing started at the site of the maximum bulge of the myoma and was continued down to the level of the endometrial surface. Each slicing session lasted for 5 to 10 minutes. After each slicing session, saline infusion was discontinued and restarted alternatively several times to induce rapid changes in the intrauterine pressure (hydromassage) to stimulate uterine contractions. The resectoscope was removed, and ovum forceps was used to extract the myoma fragments. Bimanual massage of the uterus was performed to induce extrusion of the intramural portion of the myoma into the uterine cavity. The same steps (slicing session lasting for 5–10 minutes to excise the portion of the myoma extruded into the uterine cavity, hydromassage, and uterine massage) were repeated several times until complete removal of the myoma. They concluded that the rate of 1-step complete removal of myomas was 95% (19/20) for type II myomas, 6 cm and 0% (0/3) for type II myomas > 6 cm. This technique of hysteroscopic myomectomy is a safe and effective management for submucous myomas up to 6 cm in diameter.[16]

Hysteroscopic myomectomy is associated with higher incidence of complications compared to the other hysteroscopic procedures especially myomectomy of large submucous fibroid with a complication rate of 0.3 to 28%. The most frequent complication occurring during the surgery is fluid overload and uterine perforation[11,17,18,19]. Other intraoperative complications include bleeding, cervical trauma and air embolism, while late complications include post-operative intrauterine adhesion (IUA)[20,21,22] and uterine rupture during pregnancy.[23]

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Against the Motion

Urvashi Prasad Jha, Neema Sharma, Mamta Mishra
Department of MNAGCS & Robotic surgery, Fortis Flt Lt Rajan Dhall Hospital

The Golden Question

In an era where both hysteroscopic, laparoscopic and robotic surgery have developed so much technologically, where the learning curve of the pioneering surgical expertise of so called “grandfather” experts and the new generation surgeons globally has evolved to mind blowing levels; where patient involvement in informed decision-making has taken current practice into heights frought with illogical patient expectations, suspicion and results; there remain many unanswered questions and differences in opinion in gynaecological practice. One of these is which is the most appropriate endoscopic approach for removing submucous fibroids? What, if any, is the place of laparoscopic myomectomy of submucous fibroids?

Seeking Answers

The answer, dear colleagues is still blowing in the winds for us to harness together. As for most treatments concerning medical and surgical decisions, there is no one answer that fits all clinical situations. When faced with approaching a specific patient in the clinic and offering a surgical choice for removing submucous fibroids, the safe and right decision that is made depends on many variables. These are the size, number, location of the submucous fibroid/fibroids in question; associated pathology as in the presence of other fibroids, adenomyosis, endometriosis, previous surgical abdominopelvic procedures, the need for concomitant pelvic procedures for additional pelvic pathology or symptomatology; the clinical setting, patients symptoms or lack of, patients age, fertility status, associated co-morbidities, patients physical characteristics, results of radiological and biochemical investigations. Last but not the least is the availability of surgical expertise, equipment, presence or absence of multidisciplinary support and back up. At the end of the day, the bottom line, apart from safety and optimal outcome, is also financial. However, in an Utopian world, funds would not be a consideration at all.

Considerations

Narrowing the decision as to whether the resection of a submucous fibroid should be hysteroscopic or laparoscopic, there is no dilemma or debate regarding the hysteroscopic approach for type 0 or type 1 submucosal fibroids. For type 2 submucosal fibroids, the presurgical modified classification from Lasmer et al [1] is helpful in facilitating the choice between the hysteroscopic or laparoscopic resection of the submucous fibroid in a patient. The following factors influence the route of resection of submucous fibroids.

1. Myoma characteristics
   a. As reported in the AAGL practice report: Practice

guidelines for the diagnosis and management of submucous leiomyoma 2 “In general, submucous myomas (type 0,1,2) upto 4 to 5 cm diameter can be removed under hysteroscopic direction by experienced surgeons, where as larger and multiple myomas are best removed laparoscopically”. The reports further clarifies that “ An abdominal approach, be it laparotomy, laparoscopic or robotic, is also most appropriate when the submucous myoma is a type 1-5 or 2-5 traversing the myometrium and reaching the uterine serosa.” As per the FIGO classification (PALM-COEIN), they conclude by adding that “in such circumstances resectoscopic myomectomy may be neither feasible nor safe”.

Hence categorizing the characteristics of the myomas using the FIGO (International Federation of Gynaecology and Obstetrics) enables delineation of the extent of the myoma reach and relationship to the uterine cavity, serosa and adjoining fibroids or adenomyomas. These help in planning whether the resection should be hysteroscopic or laparoscopic favouring the latter in FIGO type 2-5 or 1-5 lesions where hysteroscopic resection is unwise.

b. When the surface endometrial area resected at the myoma base is projected to be too large, leaving behind only a small remaining endometrial area in patients desiring future fertility, the laparoscopic approach is more judicious.

c. When there are too many submucous fibroids the laparoscopic approach makes more sense in patients with infertility and the hysteroscopic myomectomy combined with endometrial ablation in those women with bleeding issues. The practice guidelines of AAGL recommend that “an abdominal approach to submucous myomectomy should be considered when there are 3 or more submucous myomas or in other circumstances where resectoscopic myomectomy might be anticipated to damage a large portion of the endometrial surface”

d. Staged hysteroscopic procedures as demonstrated to be required on preoperative myoma delineation may make more sense to complete using a simple laparoscopic or robotic or open abdominal procedure instead of hysteroscopic, all else being equal. [3]

e. In those fibroids assessed to put the patient at greater risk of resectoscopic perforation, a concomitant laparoscopy allows eay detection of, and reduced risk of perforation from the carbon dioxide gas buffer created around the uterus.

f. Associated pelvic pathology in patients where making a choice between laparoscopic or hysteroscopic submucous resection is difficult with no major tilt in favour of one or the other procedure, the laparoscopic procedure may be suitable if associated fibroids, adenomyosis, endometriosis or adhesions also need to be addressed concomitantly both in patients with menorrhagia and in those with fertility issue

2. Patient characteristics

Obese patients, those with likelihood of severe symptomatic adhesions with significant co morbidities, with increased risk from carbon dioxide insufflation and from prolonged steep Trendelenburg positioning favour the choice of hysteroscopic resection. Laparoscopy is better avoided in these circumstances.

3. Surgical expertise and availability of equipment

If appropriate equipment and adequate surgical expertise in performing advanced hysteroscopic procedure is lacking and where the patient cannot or does not want to be referred elsewhere the laparoscopic route may be favoured in the grey zone areas of approaching submucous fibroid resection.

Technical Intraoperative Issues

Intraoperative requirements for performing a laparoscopic or robotic submucous myomectomy in the least traumatic manner is the availability of necessary desirable laparoscopic instruments like tenaculum, scissors, myoma screws, harmonic scalpel, myoma scoop, injection needle, needle holder. Disposable items like vicryl sutures 1-0 on a large needle, V loc or quill sutures, sharp blades, morcellation insitu bags, injection vasopressin should be kept handy before embarking on the procedure. Technically the only difference in performing laparoscopic submucous myomectomy from other myomectomies is that cavity is opened up in most procedures. Easy recognition

is made possible by preoperative instillation of intrauterinre methylene blue using an intrauterine balloon or a dilator. Suturing should preferably exclude the endometrium to decrease iatrogenic adenomyosis from developing. The intrauterine cavities may be re-examined laparoscopically to confirm there are no unidentified additional submucous fibroids that need removing.

Pre and Post- Operative Counselling

In all patients selected for laparoscopic sub mucous myomectomy it is essential to discuss preoperatively the need for resection, the benefit expected from the resection, the option of both the hysteroscopic and laparoscopic approach, the advantages and disadvantages of both the approach with reference to the specific patient clinical scenario, and the complications. After explanation the choice at the end, must be left to the patient having provided adequate information to enable the patient to make an informed choice.

A second opinion always makes it easier for the patient to make the decision. Preoperative tests are much the same as for performing any laparoscopic myomectomies.

The GnRH analogues and medication are best avoided with larger submucous fibroids since the associated degeneration necrosis and infection makes the laparoscopic procedure more difficult with lost planes and impossible handling of the degenerated fibroid.

Conclusion

As with all surgical procedures the dictum remains ‘first do no harm’. There is definitely a place for laparoscopic submucous myomectomy in specific circumstances. These must be determined judiciously preoperatively after giving the patient a complete explanation for the recommended choice.

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MEET THE LEGENDS

Dr Alka Kriplani

Dr Alka Kriplani
Receiving FRCOG Award
at London, 2007

Medical expertise, thirst for knowledge, caring personality, determination and strong will, these are the qualities that make up a brilliant doctor and a great teacher.

Dr. Alka Kriplani is a living embodiment of all these values and has found her place in history as an innovative academician, supportive mentor and a gifted doctor. She has been the pride of AIIMS for more than 30 years, helping the department achieve greater heights.

Born in a family with humble background, through her sheer dedication and innate talent she graduated in medicine with five gold medals and the position of University topper. She secured a master's degree in Gynaecology and Obstetrics from Pt. Jawaharlal Nehru Memorial Medical College, Raipur Chhattisgarh in 1981 and went on to do her senior residency from Lady Hardinge Medical College. Later, she joined the All India Institute of Medical Sciences, New Delhi in1988 as a young motivated Assistant Professor and went on to become Professor in 2002. She became the Head of the Gynaecology and Obstetrics department in 2012 and with her dedication and sincere efforts, the department grew in leaps and bounds.

During this time, she developed interest in helping couples suffering from infertility as she saw their overwhelming joy in experiencing parenthood after successful treatment. She was also motivated to assist women suffering from other debilitating reproductive disorders.

She was conferred an Honorary Fellow of Royal College of Obstetricians and Gynaecologists (FRCOG) of London and holds the fellowships of Academy of Medicine Singapore (FAMS), Indian College of Obstetricians and Gynaecologists (FICOG), Indian College of Maternal and Child Health (FICMCH) and the Federation of Immunological Societies of Asia-Oceania (FIMSA). She received many awards and recognitions like Rashtriya Gaurav Award (2007), IMAAMS Distinguished Service Award (2007), DGF Women of the Year Award (2010) and the most coveted Padma Shri by the Government of India in 2015.

Dr Alka Kriplani has been a major influence on the field of Gynaecological Endoscopy. She has been passing down her experience to the next generation by conducting postgraduate courses in advanced laparoscopy and hysteroscopy since September 1983. As with many pioneers in our profession, Dr Kriplani with great effort and perseverance established Endoscopy in Gynaecology at the premier institute of the country. Her commitment to advancing medicine has helped pave the way for the establishment of the state of the art laparoscopic surgery OT at AIIMS, Delhi providing patients with the blessing of speedier recoveries and improved outcomes.

The vision envisaged by Dr Kriplani to build a state of the art facility at the institute for the wellness and healthcare of women in the country she with sheer dedication and hard work started Robotic surgery in 2014. In 2016 a dedicated fellowship was started in Minimally Invasive Gynaecology fulfilling her dream to train young clinicians in the art and science of Endoscopy.

Teaching

Dr Kriplani on a personal level has touched the lives of many students and junior faculty. Her sincerity, clarity of thought, and foresight, that the future can be made better than the present if only we apply ourselves to solving the pressing problems of medicine. She

stressed on the importance on recording and later demonstration of her work to teach her students, fellows, practitioners and to discuss with her colleagues. She holds the view that through surgery the anatomy of the human body can be studied efficiently and thoroughly and translate in a better understanding of the same.

Dr Kriplani mastered the art of operating in an upright position off the television monitor and on the images rather than on the tissue! By doing so, she grabbed the golden opportunity of training simultaneously while operating the patient. She was conferred the DMA Medical Teachers Award (2005) and prestigious Dr. B. C. Roy Award in 2007 for teaching and health care. She has published 3 books and has contributed 53 chapters in books published by other authors.

She is truly an academic person and in her pursuit of knowledge and skill she influenced a whole generation of young doctors and students. Under her guidance in 2016 fellowship programme in Urogynaecology and Minimally Invasive Gynaecology was started along with DM courses in Reproductive Endocrinology and Onco-Gynaecology

Research

Although famed for her surgical prowess, she was equally active in research having penned countless articles, research papers and guided scores of students in research. In her career she has penned an impressive 691 publications; 269 medical papers, 271 abstracts. She has delivered over 500 guest lectures in India and abroad.

Dr Kriplani, an elected fellow of the National Academy of Medical Sciences, is a recipient of several awards and honours for her presentations such as C. L. Jhaveri Award (1995), Dr.Neera Agarwal Gold Medal (1999), K. P. Tamaskar Award (2002), Jagadishwari Mishra Award (2006), Bayer Schering APCOC Talents Encouragement Award (2008), Dr. Nimish Shelat Research Prize in Reproductive Endocrinology (2010).

Dr Kriplani has collaborated with ICMR on research in the field of contraception and is working with DCGI as an expert in clinical trial projects.

Workshops

Dr Kriplani has always shared her vast experience with her colleagues around the world and continues to present her methods, results, etc. at different medical societies and congresses. Under her guidance around 79 live workshops were conducted at AIIMS, New Delhi and other parts of the country.

Professional Associations

With the aim of infusing intensive academic inputs and coordinating various female welfare projects with different organisations she actively collaborated with various professional bodies. Dr Kriplani is associated with Association of Obstetricians and Gynaecologists of Delhi (AOGD) since long and has been in its office since 1999 as Honorary Secretary, Executive Committee Member, Chairperson Endoscopy Committee, Vice President and became President in 2013.

She had been actively involved in our national body, the Federation of Obstetrical and Gynaecological Societies of India (FOGSI) and went on to become its President in 2016. Being academician at the core she was involved in the academic wing of FOGSI, the Indian College of Obstetricians and Gynaecologists as elected member of Governing Council. She has been the Vice President (2001-05) and President (2014-16) of Delhi Gynaecological Endoscopists Society.

Dr Kriplani is an active member of Indian Association of Gynaecological Endoscopists since 2007.

In her pursuit to impart knowledge, generate better understanding of the subject and generate awareness among health care providers about the endocrine aspect of women health she started a new society, Gynae Endocrine Society of India in 2010-11 and is the Founder President since then. Under her guidance the society has around 600 members and has organised 5 national conferences with numerous CMEs which are immensely popular. Thousands of physicians, who have studied under her tutelage, spoke fondly of her calm and her friendly demeanour, academic brilliance and complete command of her discipline.

Dr Kriplani's professional evolution is incomplete without the mention of her husband and an accomplished endoscopist surgeon Dr Ajay Kriplani. He has always motivated her and has mentored her career through his moral support and guidance. He is her pillar of strength always standing firmly by her side admiring her success silently.

Glimpses of DGES Annual Conference 2017

CASE REPORT

Atypical Endometrial Polyp (Adenomyoma Polyp): 3D SIS imaging with endoscopic resection & histopathologic correlation

Glossy Sabharwal
Senior Consultant Radiologist Jeewan Mala & Apollo Spectra Hospital, New Delhi.

Introduction

Endometrial polyps are localized overgrowths of endometrial tissue composed of variable number of glands, stroma and blood vessels covered by epithelium. Although endometrial polyps are common, endometrial adenomyomatous polyp (EAP) is rarely seen. A study revealed that EAP accounts for approx. 1.3 % of endometrial polyps[1]. The WHO classification (2014) of adenomyoma include atypical polypoid adenomyoma (APA), endometrial type adenomyoma (EA) and endocervical type adenomyoma[2,3].

Endometrial polyps are a common cause of vaginal bleeding in pre- and postmenopausal women. It is most commonly seen in the fourth decade. The prevalence of endometrial polyps ranges from 7.8% to 34.9% depending upon the population studied [4].

Endometrial polyps are easily diagnosed on ultrasound. Typical appearance is hyperechoic (Echogenic) lesion with cystic foci and a vascular pedicle on color doppler. Saline infusion sonography (SIS) improves the diagnostic efficiency especially in thick endometrium.

Case Report

A 56-year old parous woman presented with postmenopausal bleeding, having had menopause at the age of 50. On gynecological examination, there was vaginal bleeding without any palpable mass. She was referred for ultrasound pelvis. Transvaginal scan showed endometrial hyperplasia with endometrium measuring 18mm. Endometrial malignancy could not be ruled out. To clarify the nature of the endometrial abnormality, saline infusion sonography (SIS) was performed with 3D reconstruction. This technique involved instillation of a small amount (5 ml) of sterile saline into the uterine cavity through a pediatric Foley's catheter followed by transvaginal ultrasound. As seen in the scan pictures (Figure 1), the anechoic saline distended the uterine cavity and clearly delineated a normal endometrial cavity with an intracavitary polyp 26x18 mm in size. However malignant changes could not be completely ruled out. The patient was planned for inpatient hysteroscopy and polypectomy.

Hysteroscopy showed a 26 mm polyp with slightly uneven surface (Figure 2) and polypectomy was done. Histopathology however showed adenomyosis within an endometrial polyp suggestive of EAP -endometrial adenomatous polyps, a benign etiology. Post resection no bleeding was seen and 6 months later follow up showed no recurrence.

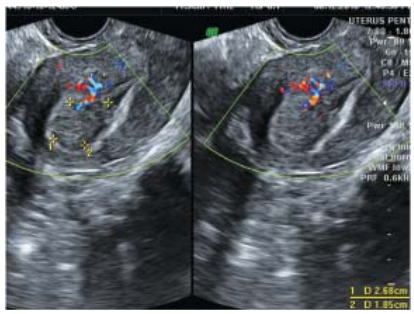

Figure 1: Saline infusion sonography (SIS)

Figure 2: Hysterscopic view of polyp

Discussion

Approximately 5-10% of women with postmenopausal vaginal bleeding may have endometrial cancer[5]. Therefore, it is of utmost importance to evaluate all such patients.

EAP is a rare benign cause of post-menopausal bleeding accounting for only 1.3 % of all endometrial polyps[1]. It is a benign tumor of the endometrium. EAP is composed of endometrial type glands surrounded by smooth muscle and must be differentiated from APA (atypical polypoid adenomyoma). APA is sometimes

shown to be associated with endometrial and serous adenocarcinoma[6].

The ultrasound picture of EAP is a solid well defined echogenic endometrial mass ranging 0.3 cm to 17 cm in diameter and is difficult to differentiate from APA and endometrial hyperplasia on ultrasound[7].

In postmenopausal women with thickened endometrium, it is important to keep endometrial malignant changes in differential diagnosis and hysteroscopy must be done in all cases. Systematic endometrial evaluation raises the diagnostic accuracy of endometrial malignancy.

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Pyomyoma - A rare case report

Malvika Sabharwal, Shivani Sabharwal, Nupur Chhabra

Jeewan Mala and Apollo Spectra Hospitals, New Delhi

Introduction

Uterine leiomyomas are the most common uterine neoplasm. The incidence of leiomyoma among women is generally cited as 20–25% but has been shown to be as high as 70–80% in studies using histological or sonographic examination[1]. Pyomyoma (suppurative leiomyoma) is a rare complication resulting from infarction and infection of leiomyoma.[2-6] We report a rare case of septic uterine leiomyoma found in an asymptomatic patient with no history of recent pregnancy or vaginal or uterine manipulation.

Case Report

A 28 years old lady presented with complaint of inability to conceive for 2 years. There was no history of pain abdomen, fever, menstrual abnormalities, dyspareunia, dysmenorrhoea, urinary or bowel complaints. She had history of open myomectomy at the age of 15 years at a government hospital details were not available. Patient had earlier visited some hospital for evaluation of primary infertility where endometrial aspiration was done which was suggestive of chronic endometritis and AFB smear was negative. On examination, temperature was 98.4^0 F and pulse was 100 /min. On per-abdomen examination, there was a transverse scar and a mass approximately 18-20 weeks size pregnant uterus was palpable arising from pelvis. On P/S examination, cervix was healthy and on P/V examination, a 20 weeks mass was felt with restricted mobility and uterus could not be made out separately. Her ultrasound lower abdomen along with TVS was done which showed normal sized uterus with cystic focus in anterior sub-endometrial location communicating with cavity, a large 126 x 93 mm lesion with cystic and solid components towards left side in pelvis, closely abutting uterus. Mass showed significant vascularity. Right ovary was normal and endometrial thickness was 5.1 mm. MRI abdomen was done for further evaluation which was suggestive of? tubo-ovarian abscess? endometriosis. Blood tests showed a haemoglobin of 9.6g/dl with TLC of 12,700/ cu mm and 82% polymorphs. Tumour markers (CA -125, CA19.9, HE4, inhibin B, beta HCG, LDH and AFP) were done which were all negative. After PAC fitness, patient was posted for surgery.

After thorough counselling and informed consent, patient was taken for diagnostic hysteroscopy with laparoscopy and proceed. On hysteroscopy,

endometrial cavity was tubular and only right ostia was seen. Left ostia was not seen and endocervical canal was normal. Ashermann syndrome was suspected. On laparoscopy, adhesions were present between omentum and anterior abdominal wall. Adhesiolysis was done to reach the pelvis. A 14 cm infected mass was seen with 4-5 multiloculated cysts containing chocolate coloured material. Bilateral tubes and ovaries not seen separately. Mass was filled with 50-60 cc pus, same was sent for C/S and thorough lavage done. On further dissection, mass was seen arising in toto from anterior surface of uterus. Bilateral ovaries were adherent to ovarian fossa but were normal. Infected uterine mass was kept in endobag and removed from abdominal cavity by manual morcellation using a small 1.5 cm incision given over previous scar. Cavity was opened up during separation. Uterus was closed in 3 layers with vicryl no.1. Thorough suction and irrigation was done. Infected mass was sent for histopathology, AFB C/S and pus sent for culture & sensitivity (aerobic & anaerobic). Intra-operative blood loss was around 300 cc. Total hospital stay of the patient was 3 days. She was kept on antibiotics Inj Tazomac, Metrogyl and Amikacin, was discharged in stable condition. Pus culture sensitivity showed growth of E. Coli (ESBL). Histopathology was suggestive of pyoleiomyoma. Microscopy showed myometrial tissue focally lined by endometrium and intertwining bundles of plump smooth muscle cells. Myometrium showed numerous neutrophils, foamy macrophages, lymphocytes and plasma cells. Areas of haemorrhage with necrotic debris were seen. No granuloma was identified. AFB culture was negative at 6 weeks.

Patient has been given intermittent estrogen (Premarin 0.625 mg) and progesterone therapy (cycloreg 10 mg HS) for 3 cycles and planned for relook hysteroscopy with synechiolysis after 6 months. She is having normal periods post-surgery.

Discussion

Most patients with leiomyomas are asymptomatic. Usual clinical presentation is a palpable mass, menstrual complaints or pressure changes. The secondary changes of leiomyoma are hyaline degeneration, cystic degeneration, calcification, fatty degeneration, necrosis or sarcomatous transformation[1].

Pyomyomas have been associated with the following clinical conditions: postpartum, ascending uterine infections, abortion, postmenopausal and bacteraemia in intravenous drug abusers[2,7,8,9,10,11]. It can also occur after uterine artery embolization of leiomyoma[12]. In our patient, the pyomyoma developed without any apparent cause. Other authors have also described cases in which no apparent precipitating factor was detected[6,7]. The possible routes of infection for the development of pyomyoma have been described as contiguous spread from the endometrial cavity, direct extension from the adjacent bowel or adnexa, or haematogenous or lymphatic spread from infection elsewhere in the body[7,11] .

Organisms implicated in pyomyomas are diverse. They include Clostridium spp, Staphylococcus aureus, Streptococcus milleri, Streptococcus haemolyticus, Streptococcus agalactiae Proteus spp, Serriatia marcescens. Actinomyces meyeri Enterococcus faecalis, Klebsiella pneumoniae, Peptostreptococcus tetradrus Escherichia coli and Candida Spp[6,14,15]. Pyomyoma occurs more commonly in submucosal fibroids due to their location and poor blood supply which make it more susceptible to ascending infection[10,15]. However in the case described it occurred in an intramural fibroid which is rare.[15] Clinical diagnosis is often difficult and frequently missed. The symptoms are usually non-specific but a triad of bacteraemia or sepsis with leiomyoma and no apparent source of infection suggests pyomyoma.[15] Differential diagnoses of pelvic mass associated with septicaemia include infected ovarian tumour, tubo-ovarian abscess, pyometra with obstruction of the endocervical canal, gynaecologic malignancy with invasion of the bowel causing intestinal obstruction and pyomyoma[5,13,15,16]. Pyomyoma is difficult to diagnose radiologically as its findings are non-specific. There may be features of increased internal echoes and reverberation artefacts and discontinuity in the uterine wall.[9,17] Presence of gas is diagnostic of pyomyoma on CT Scan.

The definite treatment of uterine pyomyoma consists of aggressive antibiotics and myomectomy or hysterectomy. A myomectomy was performed instead of hysterectomy, as the woman was desirous of future fertility.

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Journal Scan

Compiled by Shilpi Nain
Lady Hardinge Medical College and Smt Sucheta Kriplani Hospital, New Delhi

Variants of Adenomyosis and Fertility Sparing Surgical Options - A review

Adenomyosis, a disease mostly diagnosed between 30 and 45 years of age, adversely affects the fertility. Few reports have outlined the feasibility of uterine sparing surgery in women with adenomyosis causing subfertility. Minimal access surgery techniques and organ preserving surgery is being offered to such women. We reviewed the literature to critically appraise various conservative surgical options for adenomyosis and its impact on fertility. A synopsis of a few interesting studies is presented here.

Hysteroscopic Transcervical Resection for Atypical Polypoid Adenomyoma of the Uterus: A valid, fertility-preserving option

Tatsuyuki Chiyoda, Bao-Liang Lin, Keiko Saotome, Shunki Kiyokawa and Sakura Nakada, Japan
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Introduction

Atypical polypoid adenomyoma (APA) of the uterus are polyps characterized by irregular atypical glands with squamous metaplasia surrounded by smooth muscle. Only 230 cases of APA have been reported to date and as a result, standard treatment modalities have not been established. Fertility-sparing transcervical resection (TCR) is performed based on the benign behaviour of APA. However, because 8.8% of APAs are cancerous, it can be considered a premalignant lesion. Therefore, management plans should be considered carefully. To date, no published study has examined long-term outcomes following TCR. The present study evaluated the clinicopathological status of 35 patients with APA who wished to conserve the uterus.

Materials and Methods

Between 2003 and 2015, APA was identified in 44 patients of these 35 patients underwent TCR. At 4 to 6 months after each TCR, cytology and ultrasonography analyses were performed to check for recurrence. If the cytology result was suspicious or positive or if a high-echoic lesion was recognized at ultrasonography, after a diagnostic hysteroscopy, another hysteroscopic TCR was performed. An intrauterine device (IUD) was inserted after the procedure. At 1 month after the operation, an early second-look hysteroscopy was done, and the IUD was removed.

Results

Of these 35 patients with APA median age was 35 years and median duration of follow-up was 34 months. All 35 patients were nulliparous all were treated with TCR.

- Nineteen patients (54.3%) experienced recurrence of APA following the first TCR, and 13 of these patients underwent a second TCR. Among the remaining 6 patients, 3 underwent hysterectomy, 1 patient underwent second TCR and she conceived thereafter, 2 patients underwent D&C and received medroxyprogesterone acetate (MPA) therapy for atypical endometrial hyperplasia (AEH).
- After the second TCR in the 13 patients, 11(84.6%) had another recurrence and 7 of those patients underwent a third TCR. Among the remaining 4 patients, 2 underwent hysterectomy, 1 patient underwent D&C and was lost to follow-up and 1 patient experienced recurrence as endometrial carcinoma (EMCa) grade 1.
- Of the 7 patients who underwent a third TCR, 5 experienced recurrence (71.4%), and 4 underwent a fourth TCR. The remaining patient underwent TCR at another institution for EMCa grade 1, and then received MPA therapy.
- Three of the 4 patients who underwent a fourth TCR

(75%) experienced recurrence. The patient who did not have a recurrence conceived.

- Two of the 3 patients with recurrence underwent a fifth TCR, with histopathology of APA in one and APA with AEH in the other. The third patient underwent hysterectomy, and final histopathology revealed APA.

The recurrence rate was 54.3% after the first TCR, 84.6% after the second TCR, 71.4% after the third TCR, and 75.0% after the fourth TCR. The recurrence rate was higher after the second TCR than after the first TCR ($p < .01$), indicating that an APA that has recurred tends to recur later.

The median disease-free interval (DFI) was 12.4 months after the first TCR, 15.3 months after the second TCR, 10.5 months after the third TCR, and 10.9 months after fourth. Hysterectomy was performed eventually in 9 patients. Seven of the 35 patients (20.0%) with APA did not have EMCa at the first TCR; however, all 7 patients experienced progression to EMCa. Among those 7 patients, 5 patients were diagnosed with APA, 1 patient was diagnosed with APA and EH, and 1 patient was diagnosed with APA and AEH at first TCR.

The treatment modality was patient-driven, based on informed consent regarding the risk of developing EMCa at relapse. At the last follow-up session, 18 patients exhibited no evidence of disease. Two patients with EMCa grade 1 had no evidence of disease following MPA therapy at other institutions. Of 4 patients with cancer, 3 were in stage I and 1 was in stage II at the time of hysterectomy. Six patients conceived and there were no deaths.

Discussion

TCR is a viable fertility-sparing technique for managing APA under careful observation. It is considered superior to simple polypectomy or D&C as it reduces the risk of insufficient tumor resection and avoids damage to normal endometrium, allows for deeper excision, may suppress the recurrence rate while allowing patient to conceive in disease free duration.

Uterus-sparing Operative Treatment for Adenomyosis

Grigoris F. Grimbizis, Themistoklis Mikos, Basil Tarlatzis

Fertility and Sterility Vol. 101, No. 2, February 2014; 472-487

Adenomyosis can be categorised depending on the extend of myometrial invasion or histological pattern. There are various clinical variants of adenomyosis namely diffused adenomyosis, focal adenomyosis (adenomyoma and cystic adenomyoma), polyploid adenomyoma (typical and atypical) and others (adenomyomas of the endocervical type, retroperitoneal adenomyomas)

Surgeries can be classified as-

1. Complete excision of adenomyosis for focal or diffused or cystic adenomyosis – Adenomyomectomy or Cystectomy
2. Cytoreductive surgery / partial adenomyomectomy for diffused adenomyosis.
3. Non-excisional techniques (Transcervical resection TCR or roller ball ablation, High frequency ultrasound HIFU, Laparoscopic ablation etc)

Review

In total, 64 studies dealing with 1,049 patients treated with uterine-sparing surgical methods for adenomyosis were analysed. Out of these, 18 studies (907 patients) which dealt with the issues of symptom reduction and reproductive outcomes were validated and included in the review.

Results after complete excision of adenomyosis / adenomyomectomy

In 9 studies, 469 patients were treated. Overall, the mean patient age was 37.5 years, and the mean follow-up period was 25.1 months. The mean reduction of pain was 82.0% and the mean reduction of bleeding was 68.8%. After excluding the studies where fertility preservation was not the primary outcome, 147 out of 341 patients were wishing to conceive; these patients achieved 89 conceptions (pregnancy rate: 60.5%) and delivered 74 babies (delivery rate: 83.1%).

Results after partial excision of adenomyosis/cytoreductive surgery

In 3 studies, 83 patients were taken up for surgery. The mean age of patients was 35.4 years and the mean follow-up period was 24.1 months. In this group,

the mean reduction of pain was 81.8% and the mean reduction of bleeding was 50.0%. There were 32 out of 34 patients wishing to conceive, who achieved 15 conceptions (46.9%) and gave birth to 11 babies (73.3%).

Results after complete excision of cystic adenomyomas

In 2 studies that is 13 patients with mean age 23.1 years and follow-up period 29.8 months), there was a 86.1% reduction of symptoms and 84.6% reduction of pain after excision of cystic adenomyomas. Out of three patients wishing to conceive, there were three conceptions and three deliveries.

Results after non-excisional techniques

In 4 studies 342 patients with a mean age of 42.03 years and follow-up period of 38.43 months, there was 54.6% reduction of pain and 73.7% reduction of bleeding. Out of 9 patients wishing to conceive, there were 5 (55.6%) conceptions.

Discussion

Uterine-sparing treatment of adenomyosis appears to be feasible and efficacious. The reduction of menorrhagia ranges from 50% (partial adenomyomectomy) to 68.8% or even 73.68% (non-excisional techniques). After complete excision of adenomyosis, partial excision of adenomyosis, and complete excision of cystic adenomyomas, the reduction of dysmenorrhoea was found to be 82%, 81.8%, and 84.6%, respectively (not statistically significant). Excision of the bulk of adenomyosis controls the pain. However, these techniques may result in loss of the fertility of the patient due to destruction of endometrium.

The conception rates do not appear to be statistically significantly different between partial excision of adenomyosis (46.8%) and complete excision of adenomyosis (60.5%). Similarly, the miscarriage rate after partial (26.7%) and complete (16.9%) excision of adenomyosis were statistically insignificant from each other. The delivery rate after partial (73.3%) and complete (83.1%) excision of adenomyosis was also statistically indifferent.

Comments

The review suggests that conservative surgical intervention is quite likely to improve symptoms. There is no consensus on the appropriate management of symptomatic adenomyosis in women seeking fertility. So, the treatment needs to be tailored for each patient. Adequate excision of the lesion with secure restoration of the uterine wall thickness is very important. Laparoscopic excision is now aided by preoperative MRI and/or GnRH analogues making it a favourable approach. Data supporting conservative intervention are still suboptimal, and prospective, well-designed, comparative studies are urgently needed to validate this approach and establish the state-of-the-art surgical technique for uterine-sparing management of adenomyosis.

Juvenile Cystic Adenomyoma Mimicking a Uterine Anomaly: A Report of Two Cases

Vatsala Dadhwal, Aparna Sharma, Kavita Khoiwal

Case Report Eurasian J Med 2017; 49: 59-61

Introduction

Juvenile cystic adenomyoma is a rare form of adenomyosis, usually affecting young girls and presenting as severe dysmenorrhea and recurrent pelvic pain. We found a case report about two cases of juvenile cystic adenomyoma which were misdiagnosed preoperatively as unicornuate uterus with hematometra in a non-communicating rudimentary horn. The mainstay of treatment is complete resection of lesion.

Case 1

A 23-year-old unmarried female presented with on-off severe episodic pain in the lower abdomen for 2 months and severe dysmenorrhea for 3 years. The pain was spasmodic in nature, non-radiating and was refractory to analgesics. Her menstrual cycles were regular with average flow. Minimal tenderness was present over the lower abdomen on the right side. USG showed a normal-sized uterus with hematometra (3.9×2.9×3.9 cm) in the anterior wall of the uterus near the cornual end suggestive of a unicornuate uterus with a non-communicating rudimentary horn. On laparoscopy, the uterus was 6-8 weeks in size with a bulge seen in the right anterior wall near the cornual end; the right

tube was not attached on this bulge. Hysteroscopy revealed normal uterine cavity and bilateral ostia. Aspiration from the bulge showed chocolate-coloured blood suggestive of an adenomyotic cyst. Cystadenomyoma was removed and dead space obliterated. Histopathological examination confirmed the diagnosis. Her pelvic pain and dysmenorrhea were completely resolved after surgery. She conceived 3 years after surgery and gave birth to a healthy baby.

Case 2

A 16-year-old unmarried girl presented with acute severe episodic pain in the left lower abdomen; the pain occurred every 2-3 monthly. Her menstrual cycles were regular with an average flow but with severe dysmenorrhea. She required analgesics for pain relief. USG and MRI were suggestive of a unicornuate uterus with hematometra in the left non-communicating rudimentary horn. Keeping a suspicion of JCA, laparoscopy was done. The uterus appeared unevenly enlarged, with a bulge that was 4×3cm over the left uterine wall near the cornual end just below the insertion of the round ligament. Hysteroscopy confirmed normal uterine cavity and normally placed ostia. A transverse incision was made over the bulge, and thick chocolate-coloured fluid was drained. The entire adenomyotic cyst with surrounding adenomyotic tissue was removed.

Discussion

Improved imaging techniques and increased awareness has led to increased reporting of JCA. It is a treatable cause of early onset severe dysmenorrhea. MRI is the preferred imaging modality for diagnosis as it outlines the pelvic anatomy, uterus, myometrium, cavitated mass with haemorrhagic contents and endo-myometrial interface. The gold standard treatment for JCA is complete resection of the lesion. Laparoscopy is a feasible approach for resection.

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08.00am-09.00am	**Free Papers** **Chairpersons:** Dr Sharda Patra, Dr Mamta Mittal, Dr Usha M Kumar 1. Endoscopic Management of Interesting Case -**Dr Nimisha Aggarwal** 2. Laparoscopic Excision of Non communicating rudimentary horn in a 13 year old Perimenarcheal girl -**Dr Reena Yadav** 3. Fallopian tube herniation at drain site-Laparoscopic management -**Dr Priyanka Kumari** 4. Laparoscopic Trachelectomy for Cervical Stump with CIN3 and persistent pelvic pain with Menorrhagia following subtotal hysterectomy -**Dr Nidhi Chandil** 5. Laparoscopic Management of Rare Obstructive Mullerian Anamolies of Uterus -**Dr Priyanka Batra** 6. The efficacy of simultaneous laparoscopic management of endometriosis in women undergoing ivf **-Dr Shubhadeep Bhattacharjee**	**Free Papers** **Chairpersons:** Dr Madhu Goel, Dr Meenakshi Sabharwal, Dr Sheetal Sabharwal 1. Minimally invasive management of lower uterine segment myomas - A retrospective study -**Dr Kanika Chopra** 2. Hormonal analysis as a predictor of outcome of ovulation induction -**Dr Deepika Taneja** 3. Laparoscopic Ovarian Dermoid cyst Excision using Cost Effective Endobag -**Dr Nikita Warshney** 4. Approach towards misplaced or malpositioned IUCD: Lessons Learned -**Dr Neha Varun** 5. Laparoscopic Removal of Gossypiboma -**Dr Archana Lingampally** 6. Dealing with difficulties in Contained Morcellation -**Dr Soumil Trivedi**	**Free Papers** **Chairpersons:** Dr Shweta Raje, Dr Gayatri, Dr Ramnik Sabharwal 1. Methemoglobinemia: When urine turns blue,think there is a clue -**Dr Saubhagya Jeena** 2. Robotic Hysterectomy for benign uterine conditions: A prospective Study -**Dr Namrata Bhattacharya** 3. Role of diagnostic laparoscopy in the management of female infertility -**Prof. Mohammad Abdul Quayyum** 4. Revisiting Diagnostic and therapeutic Challenges in Asherman's syndrome - A restrospective analysis of 5 years -**Dr Richa Gautam** 5. Rare case of infected fibroid -**Dr Nupur Chhabra** 6. Uncontained versus contained power morcellation: comparing perioperative outcome -**Dr Shuchi Lakhanpal** 7. Laparoscopic Management of large paraovarion cysts -**Dr Roopa Malik**

	Hall - Sovereign Prime	Hall – Sovereign Paramount
09.00am-10.00am	**Hysteroscopy: Negotiating the path** **Chairpersons:** Dr Mahinder Borse, Dr Aruna Tantia, Dr Mitra Saxena, Dr Anita Kant 1. Endometrial markers for TB and chronic endometriosis -**Dr Alka Kumar** 2. Hysteroscopy the magic wand before IVF cases -**Dr Neharika Malhotra Bora** 3. 3D /4D Evaluation of uterine cavity, pre IVF replacement for hysteroscopy - **Dr Rishabh Bora** 4. Asherman- clearing the path before conception -**Dr Meenu Aggarwal** 5. Endosuturing techniques and finesse - **Dr Shweta Raje** 6. Diagnosis & prevention of complications in hysteroscopy - **Dr Anju Soni**	**Basics and Beyond** **Chairpersons:** Dr Sudha Salhan, Dr Tushar Kar, Dr Bijoy Nayak, Dr Nisha Jain 1. Anatomy through the ports -**Dr Malvika Mishra** 2. Energy sources- how better knowledge can improve surgical skills -**Dr Chaitali Mahajan** 3. Innovative techniques of tissue retrieval -**Dr Gayatri Rao** 4. Laparoscopic Hemihysterectomy -**Dr Divyesh Shukla** 5. Isthmocele - The new disease in infertility -**Dr Kalyan Barmade** 6. AMH and ovarian reserve -**Dr Prakash Patil**
10.00am-10.30am	**Correlation & Creativity** **Chairpersons:** Dr Reva Tripathi, Dr Vishakha Munjal, Dr Manju Hotchandani 1. Correlation of Laparoscopy & USG for diagnosis of pelvic pathologies -**Dr P K Shah** 2. Laproscopic creation of neo vagina -**Dr Usha M Kumar** 3. Endometriosis: Complete spectrum of imaging with interesting Cases -**Dr Glossy Sabharwal**	**Endoscopy: The Distance Travelled** **Chairpersons:** Dr Sudha Prasad, Dr Ashok Kumar, Dr Nagendra Sardeshpande 1. Laparoscopic and hysteroscopic findings of Female Genital TB -**Dr J B Sharma** 2. Corrective Surgery for VVF -**Dr Nikita Trehan** 3. Bariatric surgery and healthy living -**Dr Arush Sabharwal**

10.30am-11.30am	**Endometriosis and New Horizons** **Chairpersons:** Dr Kamal Buckshee, Dr Prakash Patil, Dr Shakuntala Kumar 1. TLH with endosuturing -**Dr Prashant Mangeshikar** 2. Laparoscopic management of ureteric and bladder endometriosis -**Dr Nutan Jain** 3. Her unspoken problems: use of femlift laser -**Dr Narender Malhotra** 4. Endometriosis and POD -**Dr Hafeez Rahman**	**Oncology: Best practices** **Chairpersons:** Dr Arun Goel, Dr Rupinder Sekhon, Dr Satinder kaur, Dr Amish Choudhary 1. Classification and Types of radical hysterectomy -**Dr Sabhyata Gupta** 2. Ca Endometrium staging and management -**Dr Deepak Limbachiya** 3. Laproscopy for borderline adnexal masses -**Dr Shantha Kumari** 4. Anaesthesia in Day care Laparoscopy -**Dr Rajesh Modi** 5. Minimal Energy in Minimally Invasive Gynaecology -**Dr Vivek Marwah**
11.30am-12.30pm	**Pioneers Speak: Evolution and Innovation** **Chairpersons:** Dr Suneeta Mittal, Dr P. K. Shah, Dr Sanjivni Khanna, Dr Ragini Aggarwal 1. Dichotomy of Law -**Dr Prakash Trivedi** 2. Evolution and advancement in minimally invasive gynaecology -**Dr Alka Kriplani** 3. Tackling Complications of laparoscopic Surgeries and Prevention -**Dr Malvika Sabharwal**	**Trail Blazers: Urogyneacology** **Chairpersons:** Dr Sudha Prasad, Dr J B Sharma, Dr Reva Tripathi, Dr Manju Puri 1. Comprehensive pelvic floor sonography -**Dr Aparna Hegde** 2. Aesthetic Urogynaecology -**Dr Vineet Mishra** 3. Changing trends of surgeon's choice for minimally invasive treatment of SUI -**Dr Amita Jain** 4. Over Active bladder for a Gynaecologist is the need of the hour -**Dr Sanjay Pandey** 5. VVF repair -**Dr Mala Raj**
12.30pm-01.15pm	**Organs and Nerves: Wider Spectrum** **Chairpersons:** Dr Sheela Mane, Dr Alka Gujral, Dr Mangla Dogra, Dr Vanie Thapar 1. Congenital malformation and reproductive outcome -**Dr Kuldeep Jain** 2. Pain to pleasure -**Dr Maninder Ahuja** 3. Nerve Pelvicology - Anatomy of pelvic nerves -**Dr B Ramesh** 4. Recurrent endometriosis in young girls -**Dr Ranjana Khanna**	**Myomas: Cutting edge technology** **Chairpersons:** Dr S S Trivedi, Dr Usha Manaktala, Dr Ashok Kumar, Dr Rajesh Modi, Dr Shivani Sachdev Gour 1. Managing Intraoperative Bleeding during myomectomy -**Dr Kishore Pandit** 2. Multi layer suturing in Lap. Myomectomy -**Dr Rajendra Sankpal** 3. Bigger Fibroids, ways and means -**Dr Pandit Palaskar** 4. Morcellation - Is the hype unscientific, what does evidence suggest? -**Dr Shivani Sabharwal**
01:15pm-01:35pm	**Chairperson:** Dr Kamal Buckshee, Dr Alka Kriplani, Dr Abha Singh, Dr Malvika Sabharwal Journey of Laparoscopic Uterus Transplant in India, The Story- **Dr Shailesh Puntambekar**	
01.40pm-02.30pm	**Lunch & Quiz** Dr Sheetal Sabharwal, Dr Ramnik Sabharwal, Dr Shivani Sabharwal, Dr Nupur Chhabra	
02.30pm-03.30pm	**Surgical Finesse** **Chairpersons:** Dr Pratima Mittal, Dr Kiran Coelho, Dr Meenakshi Chauhan, Dr Jyoti Malik 1. NDVH in big scarred uterus -**Dr P C Mahapatra** 2. Pre sacral/LUNA -**Dr Dinesh Kansal** 3. Tips to prevent future vault prolapse in TLH -**Dr Rekha Kurian** 4. Post hysterectomy Adnexal Masses -**Dr Atul Gnatra** 5. Ovarian Drilling -Current status -**Dr Vishakha Munjal**	**Surgical Avenues** **Chairpersons:** Dr Vivek Marwah, Dr Anita Sabharwal, Dr Archana Verma, Dr G K Tripathi **Mixed Bag** 1. Cesarean Myomectomy what present evidence say -**Dr Manju Khemani** 2. TLH in previous LSCS -Does lateral window help? -**Dr Aruna Tantia** 3. Cervical ectopic -A dreaded situation in obstetrics -**Dr Abhishek Chandrawarkar** 4. Cesarean Scar Pregnancy -**Dr Geeta Chadha** 5. Rare case presentations -**Dr Manju Hotchandani**
03.30pm-04.30pm	**Infertility Management Problem & Solution** **Moderators** Dr N Sanjeeva Reddy, Dr Kuldeep Jain **Panelists** Dr M Gouri Devi, Dr Anjali Tempe, Dr Sohani Verma, Dr Vandana Bansal, Dr Sunil Jindal, Dr Kaberi Banerjee, Dr Jyoti Bali, Dr Parul Sehgal, Dr Nymphea Walecha	**Urogynae Panel** **Moderators** Dr Amit Tandon, Dr Ranjana Sharma **Panelists** Dr J B Sharma, Dr Lila Vyas, Dr S N Basu, Dr Vineet Mishra, Dr Tushar Kar, Dr Niranjan Chavan, Dr Sanjay pandey, Dr Parul Sinha, Dr Navneet Magon, Dr Akhil Saxena
04.30pm-05.15pm	**Debates: The balancing act** **Chairpersons:** Dr Divyesh Shukla, Dr Chitra Setya **Experts:** Dr K K Roy, Dr Manju Khemani **Should all myomas be removed before IVF?** For -**Dr Anjila Aneja** Against -**Dr Renu Mishra** **Recurrent Ovarian endometrioma** For Surgery -**Dr Punita Bhardwaj** For IVF -**Dr Kaberi Banerjee**	**Debates: Difficult decisions** **Chairpersons:** Dr Chitra Raghunandan, Dr Leena Gupta **Experts:** Dr Kiran Guleria, Dr Sanjivni khanna **Unruptured Ectopic Pregnancy** Salpingostomy -**Dr Veena Bhat** Salpingectomy -**Dr Manvita Mahajan** **Adenomyoma Management before 35 yr** For Surgery -**Dr Lalita Badhwar** For Medical -**Dr Abha Singh**
05.15pm - 06.15pm	**Invited Videos** **Chairpersons:** Dr Neelam Bala Vaid, Dr Dinesh Kansal, Dr Amita Shah, Dr Shivani Sabharwal 1. Laparoscopic Management of Twisted Leaking Dermoid cyst with acute abdomen at 22 weeks of pregnancy -**Dr Alka Gujral** 2. RVF prevention & Management -**Dr Mala Srivastava** 3. Hysteroscopic Management of cornual block -**Dr Vidushi** 4. Hydrosalpinx and dilemma in infertility -**Dr Neema Sharma** 5. Cervical Fibroid - The pitfall -**Dr Ramandeep** 6. Cornual Ectopic Management -**Dr Arvind Vaid** 7. Ectopic after IVF -**Dr Mansi Jain**	**Invited Videos** **Chairpersons:** Dr Abha Singh, Dr Tarini Taneja, Dr Lalita Badhwar, Dr Anjila Aneja 1. Conservative Lap. Management of ovarian torsion -**Dr Nagendra Sardeshpande** 2. Dermoid Cyst in adolescent-How to tackle -**Dr Garima Kachhwa** 3. A rare case of post cesarean Utero-cutaneous Fistula - Laparoscopic management -**Dr Chandra Mansukhani** 4. Rejuvenating Vaginal surgeries -**Dr Navneet Magon** 5. Unusual ectopic pregnancy -**Dr Jyoti Mishra** 6. Iatrogenic infertility-How responsible are we? - **Dr Jyoti Bali** 7. Unexpected findings at laparoscopy -**Dr Priti Arora Dhamija**

Abstracts: Free Paper Presentations

Robotic Hysterectomy for Benign Uterine Conditions: A Prospective Study

Namrata
AIIMS, Rishikesh

Introduction: Hysterectomy is the most common surgical intervention on the female genital tract following Caesarean delivery. Various routes for hysterectomy have evolved over the years. In the era of minimally invasive surgery, FDA approved da Vinci Surgical system and Robotic hysterectomy in 2005 which has revolutionized the face of minimally invasive surgeries. Despite its drawbacks of high cost, special skill training and lack of tactile sensation during surgery it has eons of advantages like 3-D imaging with better visualization, better range of movements, reduced number of assistants, reduced risk of infections etc.

In the present study we shall discuss advantages of Robotic surgery over open surgeries like total operating time, blood loss, post-operative pain and complications.

AIMS AND OBJECTIVES:

To assess feasibility of Total Robotic Hysterectomy for benign uterine conditions.

Materials and Methods: Prospective study included 32 women who underwent Robotic Hysterectomy from April 2018 till July 2018 (4 months).

Inclusion criteria: Patients in the age group 35-55years undergoing total Robotic hysterectomy for benign indications.

Exclusion criteria: Patients with known gynaecological malignancies and those who were not willing for robotic route for hysterectomy

Methodology: Routine pre-operative investigations, USG, CECT/ MRI (optional) were done. Total Robotic hysterectomy was performed for patients.

Results: A total of 32 women underwent total robotic hysterectomy during the study period.The average total operating time was found to be – 48.18min. The average blood loss was – 15.15ml. The mean time required for docking and vault closure was 5.46min and 9.9min respectively. The post-operative pain and duration of hospital stay was significantly lesser than open procedures.

Conclusion: For benign conditions Robotic hysterectomy is superior surgical route than abdominal hysterectomy in terms of operating time, blood loss, post-operative complications and pain.

Laparoscopic Trachelectomy: A case report

Nidhi Chandil
PSRI Hospital, New Delhi

Laparoscopic trachelectomy for cervical stump with CIN3 and persistent pelvic pain with menorrhagia following subtotal hysterectomy

A P3L3,39 yr old women had history of total abdominal hysterectomy for dysmenorrhea with ASCUS on pap smear in 2013 in Nigeria. She presented to us with severe pain abdomen and bleeding from last 3 years. Bleeding was irregular, occurring every 2 to 3 months. On diagnostic hysteroscopy and laparoscopy, remnant of uterus along with cervix and right ovary and fallopian tube was found. So, laparoscopic removal of remnant uterus and cervix with right salpingo-ophorectomy was done under GA. Here authors wish to enlighten the ease of visualization and operability along with clarity of anatomy during laparoscopic trachelectomy following subtotal hysterectomy.

Keywords: Trachelectomy, hysterectomy, pelvic pain

Laparoscopic Management of Rare Obstructive Mullerian Anomalies of Uterus

Priyanka Batra, Sabhyata Gupta, Shradha, Dimple, Buchan, Kiran, Sarita, Parvinder
Medanta - The Medicity Gurgaon (Haryana), India

Aims & Objectives: Video presentation to demonstrate technique of:

1. Laparoscopic excision of uterine remnants having functional endometrium in a patient of Mayer Rokitansky Kuster Hauser Syndrome (MRKH)
2. Laparoscopic excision of non-communicating cavitated accessory horn with a unicornuate uterus in 2 young patients.

Case 1: We present a case of 19 years old girl who presented with MRKH, Primary amenorrhea with severe cyclical pelvic pain for 4-5 days every month. MRI pelvis showed aplasia of uterus, cervix and vagina with normal looking ovaries. Nodular isointensesoft tissue measuring 28 x 15 x 15 mm inferior to the ovaries on both side was seen. No urinary tract abnormality was detected. Laparoscopic excision of B/L uterine remnants was performed, histopathology confirmed both uterine remnants with functional non-secretory endometrium and underlying myometrium. Patient was relieved of her severe cyclical pain after surgery.

Case 2 & 3: Two young girls of age 11 and 25 years presented with severe incapacitating dysmenorrhea refractory to injectable analgesics. MRI was suggestive of unicornuate uterus with non-communicating cavitary horn showing hemorrhagic contents with normal ovaries. Unicornuate uterus was confirmed on hysteroscopy.

Laparoscopic excision of accessory cavitated horn with ipsilateral fallopian tube was performed.

Video shows stepwise technique with tips & tricks, understanding of anatomy and ways to prevent complications.

Conclusion: Obstructive Mullerian anomalies of uterus are very rare but patient suffers with severe in capacitating pelvic pain. Thorough history taking with prior knowledge of these conditions and proper imaging can diagnose and manage these young patients. Laparoscopy is very effective, safe and very rewarding tool for management of such conditions.

Fallopian Tube Herniation at Drain Site - Laparoscopic management

Priyanka Kumari, Shilpi Nain, Manju Puri
LHMC & SSK Hospital, New Delhi

Introduction: The dictum "when in doubt, put the drain" is well known to surgeons. But the use of drains may be associated with complications like haemorrhage, infection, drain kinking or knotting, intestinal perforation and visceral herniation from the site. We are reporting a case of fallopian tube herniation through surgical drain site which was reposited back through laparoscopy.

Case Report: A Primigravida at term gestation with severe pre-eclampsia was taken up for LSCS in view of foetal distress and an intra-abdominal drain was inserted at closure due to thrombocytopenia. After the drain removal, Fallopian tube was seen herniating through the site. Laparoscopic repositioning of the fallopian tube was done. It saved the tube, reduced morbidity and ensured better patient satisfaction. Such complications can be avoided by restricted use of surgical drains, asymmetrical technique of drain insertion and gradual, careful removal of the drain. Laparoscopic repositioning of the herniated fallopian tube is an unconventional but feasible approach that could greatly avoid untoward morbidity.

Revisiting Diagnostic and Therapeutic Challenges in Asherman's Syndrome – A retrospective analysis of 5 years

Richa Sharma, Rahul Manchanda, Nidhi
UCMS & GTB Hospital, New Delhi

Aim: This study was undertaken to review the clinical features, surgical difficulties, complications and treatment outcome in patients diagnosed with Asherman syndrome at our centre.

Materials and Methods: This is a retrospective study of cases of Asherman syndrome managed in last 5 years. Sociodemographic and clinical information relating to clinical presentations, treatment modalities, and outcomes were collated.

Results: Out of 21 women, 59% were in their third decade and 85.9% were multiparous. The most common risk factor was pregnancy-associated, accounting for 61.5%. Infertility and hypomenorrhea were the most common modes of presentation in 55.1% and 32.1% of cases respectively. 95.9% were treated by hysteroscopic adhesiolysis followed by either Foley's catheter insertion and estrogen-progesterone combination or Copper T with hormones or stem cell instillation. It was found that Copper T with hormones had maximum success rates. Majority required 3 second look hysteroscopies to restore adequate uterine cavity. Correction of menses was seen in 71.2% of the patients while the pregnancy rate was 32.1%. On binary logistic regression age of the women, multigravidity and previous pelvic surgeries for pregnancy namely caesarean section and dilatation and curettage for abortion emerged as the only related risk factors associated with the development of Asherman syndrome.

Conclusion: Early recognition of clinical symptoms and treatment can restore fertility potential and menstrual functions. Hysteroscopic adhesiolysis is the Gold Standard for diagnosis, classification, and treatment of Asherman syndrome.

Methemoglobinemia: When urine turns blue, think there is a clue

Saubhagya Kumar Jena, Sushree Samiksha Naik
AIIMS, Bhubaneswar

A 25-year-old infertile woman showing bilateral tubal block on hystero-salpingography was further evaluated by diagnostic hysterolaparoscopy. Hysteroscopy showed normal cervical canal and uterine cavity with left ostia showing features of salpingitis, and right ostia normal. Laparoscopy showed adenomyotic uterus with early endometriotic focus in posterior uterine surface, enlarged bilateral ovaries, normal fallopian tubes. On chromopertubation tubes were patent bilaterally without free spillage of dye; tubal cannulation tried hysteroscopically, but ostia could not be negotiated. On second flushing attempt, free spillage of dye was seen through bilateral tubes with the unusual finding of bluish uterine serosa. On post-operative day 1, bluish urine was found in urobag of the patient and the patient developed hypoxemia. Spectrophotometric analysis showed elevated blood methemoglobin level. The patient was managed conservatively and was discharged on post-operative day 7 in good condition.

Uncontained Versus contained Power Morcellation: Comparing perioperative outcome

Shuchi Lakhanpal
Rejoice Gynae Infertility & Endoscopy Centre

Materials: Women undergoing laparoscopic myomectomy who required morcellation of uterine tissue for specimen extraction were included in our study. Any patients with a comorbidity, like severe obesity(BMI>40), undergoing a simultaneous second surgery or with size of fibroid more than 28 weeks were not included in the study.

Methods: We compared intraoperative and postoperative outcomes in women who underwent power morcellation with and without a bag. The technique for in-bag morcellation required placement of the fibroid specimen into a large containment bag, placed within the abdominal cavity. The bag was then insufflated within the peritoneal cavity, and a power morcellator was used to remove the specimen from inside the bag. All parameters to be analyzed were noted.

Results: We had a total of 146 patients. Of this, we had 39 patients who underwent surgery with morcellation of uterine tissue inside a bag. Prospective data collected from 39 patients, was compared with retrospective data collected from the immediately preceding 107 patients who had uncontained (no bag used) power morcellation. The demographics in the 2 groups were comparable. The average morcellation time and total operating time was comparable in the 2 groups, with no statistical difference in the two groups. There were no intraoperative complications in both the groups. The estimated blood loss, fibroid specimen weight, length of hospital stays, and perioperative complication rate did not vary between the 2 groups. There was a case of leiomyosarcoma in the in bag morcellation group. There was no case of bag rupture/need for laparotomy.

Conclusion: Contained morcellation is a safe and feasible procedure, with a slight learning curve. However, once the technique is mastered, the time taken to insufflate the bag becomes minimal. It can potentially provide protection against tissue dissemination, and possibly, recurrence and malignancy.

Laparoscopic Removal of Gossypiboma

Archana Lingampally, B B Dash
Rejoice Laparoscopy & Infertility Centre

Gossypiboma is described as surgical sponge or gauze retained inside a patient's abdomen following any surgical procedure. It is an infrequent but avoidable medical error that can lead to medicolegal problem. When diagnosed, it should be removed even in an asymptomatic patient. Most of the cases reported in the literature were managed by laparotomy, with only few cases citing laparoscopic removal. We present a case of 29 year old female, 2 months post caesarean section with abdominal pain and lump, diagnosed as gossypiboma and treated successfully by laparoscopic surgery.

Approach towards Misplaced or Malpositioned IUCD: Lessons learned

Neha Varun, Aruna Nigam, Sumedha Sharma, Arifa A Elahi, Nidhi Gupta
Hamdard Institute of Medical Sciences and Research, Jamia Hamdard University

Introduction: Intrauterine contraceptive devices are the most commonly used contraceptive method worldwide as it is an effective and economical method. It is associated with complications like increased bleeding, perforation and transmigration of IUCD to adjacent organs.

Material and Methods: This is a retrospective study conducted in a medical college over a period of two years from June' 2016 to June' 2018. In this study we have included a total of sixteen patients in which minimal invasive approach was utilized for the removal of misplaced or malposition IUCD.

Results: Total 15 patients were recruited. Mean age (range) was 27.5 (22-35) years and parity was 3 (1-3). 15 patients had Cu380 A IUCD, 4 had multiload type of IUCD and in one patient Cu380 A IUCD was inserted after adhesiolysis for Asherman syndrome (after removing Copper). Fifteen IUCD were inserted as interval IUCD and 4 in postpartum phase. Two patients had operative laparoscopy and 14 had operative hysteroscopy for the removal of IUCD. In 4 patients IUCD were removed under anesthesia without hysteroscopy. In six patients IUCD was lying embedded in the uterine wall. No surgery related complications were observed intraoperatively. The mean duration of hospital stay was 32 hours (24-48 hours). No postoperative complications were observed.

Conclusion: Removal of Misplaced or malposition IUCD is strongly recommended even in an asymptomatic patient and minimal invasive approach is the best surgical method recommended for such cases.

Keywords: IUCD, minimal invasive approach, misplaced /malposition IUCD, hysteroscopy, laparoscopy

Endoscopic Management of Interesting Case

Nimisha Agrawal, Mukta Agarwal
AIIMS, Patna

Herlyn-Werner-Wunderlich syndrome is the least common form of Mullerian malformations characterized by didelphic uterus, obstructed hemivagina and ipsilateral renal anomaly (OHVIRA) (AFS Classification).

We report a case of a 16-year-old girlwith OHVIRA who presented with regular menstruation, dysmenorrhoea, cyclical urinary complaints, periodic pain in lower abdomen for the last four years and a tender abdominopelvic mass. Ultrasound done elsewhere reported as ovarian tumor. MRI examination made the diagnosis possible. Detailed written informed consentwas obtained pre-operatively.

Vaginoscopy is ideal for examination of vaginal anomalies in an adolescent female as it helps avoid trauma to the fragile hypoestrogenised vaginal tissues and its irrigation fluid has the added advantage of distending the vagina sufficiently to allow good visualization of the cervix and vaginal canal simultaneously. Hence vaginoscopy with hysteroscopy was planned to facilitate resection of hemivaginal septum and drainage of hematometrocolpos.

Under endoscopic guidance, distal part of the vaginal septum was incised by electrocautery thus creating an opening in the septum between 2 hemivaginae allowing drainage of hematometrocolpos.

Vaginoscopy and hysteroscopy is thus safe, convenient, and efficient diagnostic and therapeutic modalities that can be used in the management of patients with obstructed hemivagina, since most of these patients belong to the paediatric adolescent population who have restrictive vaginal opening or narrow vaginal canal due to hypoestrogenic status. Furthermore, endoscopic resection of vaginal septum offers minimal risk of recurrence of the septal defect and future complications.

Keywords: Obstructed hemivagina, renal agenesis, uterus didelphys,vaginal septum, MRI, hysteroscopy, vaginoscopy,paediatric adolescent population

Minimally Invasive Management of Lower Uterine Segment Myomas - A retrospective study

Kanika Chopra
Sir Ganga Ram Hospital, New Delhi

Aim: The objective of this retrospective study was to study the demographic and clinical profile of the patients with lower uterine segment fibroids managed by laparoscopic myomectomy, along with its intraoperative and postoperative morbidity.

Material and Methods: The study included forty-two patients over a period of 3 years, from 2014-2017, who underwent laparoscopic myomectomy in Sir Ganga Ram Hospital, New Delhi, for lower uterine segment fibroids. Information was collected from medical records on the clinical profile of the patients, intraoperative findings, postoperative complications and hospital stay.

Results: The average age of the patient in this study was 29.92+/- 4.78 years. Majority of the patients i.e. 59.5% presented with menstrual abnormality in the form of heavy menstrual bleeding and infertility was the complaint in 28.5% cases. The largest size of the fibroid was 17 cm, with a mean diameter of 10.8+/- 3.9cm. The mean duration of surgery was 120.12+/- 59.46 and average blood loss was 53.90 +/- 32.5ml. The average hospital stay was 1.8 days.

Conclusion: It can be concluded that laparoscopic myomectomy is a safe procedure in the hands of an efficient endoscopist team in lower uterine segment fibroids with a favourable outcome in terms of blood loss, postoperative morbidity and stay in the hospital.

Clinical Significance: There exist technical difficulties associated with laparoscopic myomectomy, especially in cases as in our study due to difficult location and big size of the fibroids. So, it is the need of the hour to inculcate the thought among the gynaecologists to promote laparoscopy and adequate training in this ever-advancing field for a better patient outcome.

Keywords: laparoscopic myomectomy, fibroids, lower uterine segment fibroids, endoscopy.

Role of Diagnostic Laparoscopy in the Management of Female Infertility

Prof. Mohammad Abdul Quayyum
Feni Pvt Hospital, Bangladesh

Background: Infertility is a growing concern of the society. In many cases the exact cause of infertility may not be elucidated, laparoscopy has become an integral part of gynecological surgery for diagnosis and treatment of abdominal and pelvic disorders. With recent improvements in the assisted reproductive technology (ART), there has been a growing tendency that bypasses diagnostic laparoscopy and proceeds directly to ART. Therefore, the value of diagnostic laparoscopy in current fertility practice is debatable. The objective of this study was to study role of diagnostic laparoscopy in the management of unexplained infertility.

Methods: Fifty case of primary or secondary infertility with unknown etiology that underwent diagnostic laparoscopy in the Feni Pvt Hospital. Diagnostic laparoscopy was offered as a final option for patients with normal diagnostic workup for infertility like semen analysis, ovulation testing, ultrasound examination and hysterosalpingogram. Data of the identified patients were collected from patient case records. Outcomes in terms of cause detected and immediate laparoscopic management done for enhancing fertility were recorded.

Results: Out of 50 cases studied, in 27 cases we found most probable cause of infertility and in remaining 23 cases we did not found any cause of infertility. Of the 27 cases, 11 cases had endometriosis, 5 cases had multiple pelvic adhesions, 5 cases of bulky cystic ovaries, 3 cases had combined endometriosis with pelvic adhesions and 2 cases had bilateral tubal blockade contrary to hysterosalpingographic findings, 1 case showed combination of cystic ovaries with pelvic adhesions. Intraoperative adhesiolysis, endometriosis ablation, and ovarian drilling were done in respective cases.

Conclusions: We concluded that Laparoscopy has important role in the diagnosis and treatment of unexplained infertility. It also helps in prediction and improvement of success rate of assisted reproductive technologies like IUI and IVF.

Keywords: Laparoscopy, Diagnostic, ART

Hormonal Analysis as a Predictor of Outcome of Ovulation Induction

Deepika Taneja, Ratna Biswas
Haryana Superspeciality Hospital

Background: Ovulation induction with low dose FSH has been tried in women with unexplained infertility who fail to conceive with clomiphene.

Aim: To study the role of hormonal analysis, its correlation with follicular monitoring in ovulation induction and as a predictor of pregnancy outcomes.

Material and Methods: Selected women were recruited and induced with low dose FSH (75IU from day 3 of cycle). Alternate day transvaginal ultrasound starting from day 8 was performed till dominant follicle of 18mm diameter was attained followed by inj. hCG administration and IUI. Serum oestradiol was measured on day 10 of cycle and on day of hCG administration. Serum progesterone levels were measured on the day of hCG administration and day 21 of cycle.

Results: In FSH stimulated cycles,oestradiol levels on day 10 and per follicle on the day of hCG administration were significantly lower compared to non-responders (135.2±25.70pg/ml versus 162.2±78.24pg/ml, p=0.01; 206.7±27.97pg/ml versus 308.2±103.99pg/ml, p<0.01). Follicular development correlated well with oestradiol levels. One cycle was cancelled for multifollicular development in which serum oestradiol levels were 1025pg /ml on day 10.The pregnancy rates were 23.68% (9/38) per couple and 8.65% (9/104) per cycle.

Conclusion: Lower levels of oestradiol per follicle on the day of hCG administration in the physiological range (150-250pg/ml) are an important determinant of conception. Hormonal levels are not routinely needed to prevent hyperstimulation or predict OHSS with follicular monitoring and low dose FSH can be given safely without hormonal monitoring.

Laparoscopic Management of Large Paraovarian Cysts

Roopa Malik*, Nirmala Duhan, Daya Sirohiwal
PGIMS, Rohtak

Introduction: Paraovarian cysts are common, accounting for 5-20% of adenexal lesions. These are mostly benign lesions, with borderline malignancy or malignancy reported only in rare cases. They are generally asymptomatic and present only when complicated by rapid growth, torsion or haemorrhage. Theymay also be picked up incidentally when patient is being worked up for some other issues like infertility.

Case Report: A 16-year-old girl reported to us in Gynaecology OPD with chief complaints of gradual distension of abdomen associated with dull aching pain. On physical examination there was a large smooth, cystic, non-tender mass reaching upto xiphisternum. Another patient 24 year oldcame to us with chief complaints of primary infertility and on physical examination she had a smooth, cystic, nontender mass 20x25 cm in dimensions. Both these patients were taken up for laparoscopy after preoperative evaluation. In both the cases paraovarian cystectomy was carried out successfully using laparoscopy after drainage of cyst's fluid.

Conclusion: Parovarian cysts are common adenexal lesions which may be managed with minimal access surgery after complete work up ruling out malignancy using serum markers as well as radiological investigations. Even the huge ones as in our cases can be done laparoscopically.

Role of Laparoscopyin Management of a Case of Puerperal Sepsis

Malvika Sabharwal, Shivani Sabharwal, Nupur Chhabra
Apollo Spectra Hospital and Jeewan Mala Hospital

This is a video presentation of management of a case of puerperal sepsis where a rare cause of puerperal sepsis was identified.

A 21year old primigravida presented with 38 weeks pregnancy in labour. She underwent caesarean section for foetal distress. LSCS was uneventful. Patient developed fever with tachycardia on postop day 1. On post op day 2, patient continued to have fever with tachycardia which warranted change of antibiotics. Wound was healthy with no discharge. The fever persisted for next day, hence all relevant investigations were done along with cultures. USG abdomen was done which was normal. Patient's TLC remained in the range of 7000-12000 with neutrophilia. She was hemodynamically stable with procalcitonin of 2.0. A diagnosis of puerperal sepsis was made. Except TLC and DLC, all investigations including cultures were normal. CT abdomen was done to evaluate the cause of fever as it was persisting despite escalation of antibiotics. CT scan showed hyper-density in right lateral aspect of uterine wall with free air specks within it. A suspicion of retained gauze piece was raised due to CT findings. Patient was taken up for laparoscopy and proceed. Primary port at Lee huang's point with ancillary lateral ports. Omentum was adherent to the anterior abdominal wall. Bilateral tubes were also adherent to anterior abdominal wall. Adhesiolysis done. Pockets of pus seen in lower uterine segment, sent for aerobic and anaerobic cultures. A partially resorbed infected gelatin sponge was seen over the stitch line, which was removed and sent for cultures. Thorough peritoneal lavage wasdone, and abdominal drain was placed. Patient's fever decreased on post op day 1 and by post op day 2 patient was completely afebrile.It was concluded that the gelatin sponge infection led to the puerperal sepsis. For root cause analysis, the gelatin sponge culture from fresh pack was sent which showed growth of gram positive bacilli.

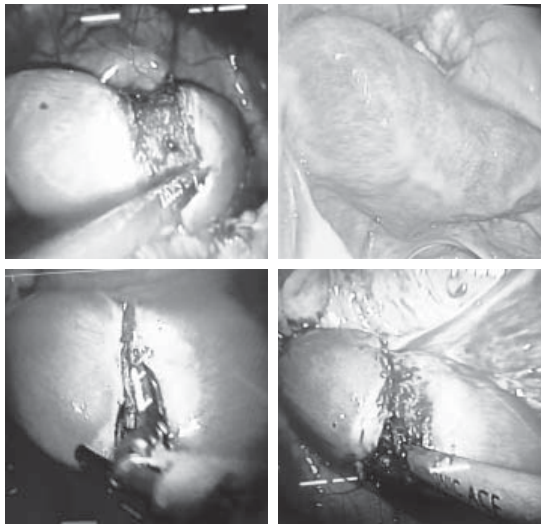
Gelatin sponge which is routinely applied during caesarean section may be an important cause of puerperal sepsis and should be kept in mind while evaluating patients of puerperal sepsis. Infection of gelatin sponge may mimic like retained gauze on CT scan which may create a scary differential of retained infected gauze in the abdomen.

Laparoscopic Excision of Non-communicating Rudimentary Horn in a Perimenarcheal Girl

Reena Yadav
LHMC & SSK Hospital, New Delhi

Case Report: A 13year old girl presented with a history of severe dysmenorrhoea for 4-5 days during menses, relieved only by intravenous analgesic. She attained

menarche 6months back. Her initial four cycles were regular with moderate flow with no dysmenorrhoea. She started having severe dysmenorrhoea for last two cycles. On examination, patient was moderately built and nourished. Her general physical examination was normal. Per abdominal examination was unremarkable. On TAS, a thick walled complex cyst closely abutting right ovary was seen. Impression given on USG was that of right adnexal complex cyst. Her MRI suggestive of bicornuate uterus with right lateral half of cavity distended with haemorrhagic contents. It was diagnosed as noncommunicating horn in bicornuate uterus. Laparoscopic resection of the noncommunicating horn was done.



Discussion: The frequency of rudimentary horn is rare representing 1%-3% of congenital uterine anomalies.In 80%-90% cases there is no communication with other horn. Rudimentary horn could be either firmly attached to the unicornuate uterus as in our patient or separated by a loose band of tissue. Accurate diagnosis of the anomaly is required prior to excision to decide the precise surgical approach as two horns in our case were firmly attached. This required difficult dissection to develop a plane between hemi-uteri. We have successfully managed this case laparoscopically without causing any damage to the communicating horn.

Laparoscopic Ovarian Dermoid Cyst Excision – Case report

Nikita Varshney Bansal
Shubh Laparoscopy and Arthroscopy Hospital

Introduction: A 24-year-old unmarried girl presented with vague pain and fullness in abdomen for 2 months. USG showed right ovarian cyst measuring 16.1 x 10.0 cm reaching upto supra-umbilical region, with 5.6 x 3.8 cm fatty tissue and mesh. CT Pelvis confirmed an ovarian dermoid cyst with smooth non-invasive mass effect over surrounding bowel loops. No ascites, adenopathy or deposits were reported.

AFP – 3.99ng/ml, CA125 – 18.4 U/ml.

Treatment: Laparoscopic enucleation of cyst preserving ovarian cortex using cost effective endobag was done. (Video).

Conclusion: Laparoscopy should be considered as the method of choice in the management of dermoid cysts in select cases as an alternate to laparotomy.

Laparoscopy provides following advantages:

- Allows forceful jet lavage aspiration in all areas.
- Reduces hospital stay and postoperative pain.
- Cost effective endobag helps in minimal spill of contents and reduces the cost of procedure.

The Efficacy of Simultaneous Laparoscopic Management of Endometriosis in Women undergoing IVF

Shubhadeep Bhattacharjee
Indira IVF Hospital, Delhi

Objective: The aim of this study was to investigate simultaneous laparoscopy in endometriotic women with infertility undergoing in vitro fertilization (IVF).

Materials and Methods: Forty-seven infertile patients with endometriosis were enrolled in this study and underwent IVF cycles at Indira IVF Hospital, New Delhi.

Results: The chemical pregnancy, clinical pregnancy and live birth rates were statistically significantly different between patients with minimal or mild stage endometriosis and patients with moderate or severe stage endometriosis, who received simultaneous laparoscopy and modified IVF with a GnRH antagonist protocol. A higher live birth rate was achieved in IVF patients with minimal or mild stage endometriosis combined with laparoscopic treatment, than in patients who received IVF with prior laparoscopic surgery for endometrioma.

Conclusion: Simultaneous laparoscopy combined with a modified IVF (GnRH antagonist) protocol may benefit patients with minimal and mild endometriosis. Traditional GnRH agonist IVF cycles may improve the fecundity rates in women with moderate and severe endometriosis after laparoscopic treatment.

Delhi Gynaecological Endoscopists' Society

Membership Application Form

The President
Delhi Gynaecological Endoscopists Society
Jeewan Mala Hospital
67/1, New Rohtak Road,NewDelhi-110005
Tel: 011-47774141, 23511474, 75, 76, 77, 011-65094990, 91, 92, 93
Fax: 011-47774242,23670347
Mb: 9212150571,9811557511,9212526855
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I wish to join Delhi Gynaecological Endoscopists Society (DGES) as a Life member, subject to approval of the DGES Executive Board, if admitted, I will abide by the rules and regulations of the society.

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Enclosed: Attached One Photograph & Cheque/Demand Draft should be made in Favor of "Delhi Gynaecological Endoscopists' Society", payable at New Delhi.

Yearly Membership Rs. 500/-
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Jeewan Mala Hospital

67/1 New Rohtak Road, New Delhi 110005

(L)011-40043355, M: 9212150571, 9212526855, 98115575511

Email: dgesjmh2017@gmail.com

www.dges.in