Newsletter June 2016

iage newsletter

Bladder Endometriosis with Frozen Pelvis

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Dr. Sanjay Patel MD
Diploma in Endoscopy, Germany
(Endoscopic Surgeon, Infertility & IVF Specialist)
Mo.: +91 98240 39841

Dr. Jaya Patel MB DGO
(Infertility & IVF Specialist)
Mo.: +91 97140 40015

Dr. Yogendra Jhala MD, FRCOG (UK)
(Obstetrician, Gynecologist & Endoscopic Surgeon)
Mo.: +91 98240 69244

Dr. Meena Jhala MD DGO
Obstetrician & Gynecologist
Infertility & IVF Specialist
Mo.: +91 98250 70232

Dr. Mayank Chowdhury MD
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Mo.: +91 98981 15171

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Mayflower Women's Hospital
Drive in road, Memnagar, Ahmedabad, India - 380 052
Phone No: +91 (79)-2749 5001-2-3, Fax: +91 (79)-2749 5021
E-mail: contact@mayflowerhospital.com **Web:**www.mayflowerhospital.com

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> **Endoscopy for all with safety & economical consideration**

Dear Colleagues

As the President of Indian Association of Gynecological Endoscopists (IAGE) it is my honour to write a message for this second newsletter of the year. I am very happy to have the release of this newsletter during the IAGE AAGL International mega event.

The theme of the IAGE is "Endoscopy for all with safety & economical consideration". We would like to dedicate the newsletters based to the topics which are of prime importance for every Gynecological Endoscopic Surgeon in their day to day practice. The reader will find a practical solution to a particular scenario in their endoscopy practice. Dr Pragnesh Shah being very keen, sincere & enthusiastic academician along with Dr Sujal Munshi have put forward lot of efforts behind this newsletter. I am sure our members will find this newsletter a useful reference tool in their practice .

I am happy to let you know that in past one year our IAGE team has successfully organized scientific events & workshops in many parts of India such as Delhi, Bhopal, Nagpur, Kolhapur, and Mumbai. All the events were attended by large number of Gynecologists. Now our office has planned exciting good scientific events in the forthcoming year which are enlisted in this newsletter. Reader will also find glances of the organized activities of IAGE in the past six months.

On behalf of the managing committee I sincerely appreciate the efforts of Dr Pragnesh Shah & Dr Sujal Munshi for bringing out this beautiful informative newsletter.

With best wishes

Dr Rajendra Sankpal

President IAGE

Dr. Pragnesh Shah **Dr. Sujal Munshi**

It gives us immense pleasure to present our IAGE Newsletter with scholarly prepared educational articles. IAGE Newsletter has always served as a forum for the exchange and dissemination of educational ideas, findings and techniques relevant to Gynaecological Endoscopy. We have included articles with research, clinical opinions and interesting case reports prepared by the brightest minds in gynecological minimal invasive surgery. It is an authoritative source, informing practicing gynecologist about the latest cutting edge developments occurring in this ever progressive and dynamic field.

Minimal invasive surgery in the field of Gynecology has emerged as one of the safest and most efficient technique not only for diagnostic purpose but also for its therapeutic benefits over last two decades. Vision of our prestigious organization IAGE is integration of this technique in conventional Gynecology and constant improvisation of clinical practice with ongoing research, innovation and dialogues and ultimately to serve women in a better way.

The primary role of IAGE through the platform of this Newsletter is to provide educational opportunities to surgeons who have done some landmark work in the field. However we also know that this being a dynamic subject there is a clear need for further research and scholarly prepared educational material to achieve the best outcomes for women undergoing minimally invasive gynaecologic care. Our organization IAGE, will continue its efforts to provide evidence based information to our members. We thank IAGE President Dr. Rajendra Sankpal and Secretary Dr. Rishma Pai for giving free hand in bringing out this Newsletter.

We sincerely thank all IAGE managing committee members for willingly contributing articles and sharing their experience and expertise. We will appreciate your feedback for articles and IAGE activities to improve our performance in future. We also sincerely thank Dr. Stuti Kedia , Fellow in Advanced Gynaecology Endoscopy, for preparing this Newsletter and Mr. Anand Shah for designing such a beautiful Newsletter. We thank all educational grant providers for making the project of IAGE Newsletter a reality in a very short time.

12th AAGL International Congress on Ultimate Advances in Minimally Invasive Gynaecologic Surgery

Dr. Prakash Trivedi
Program Chair

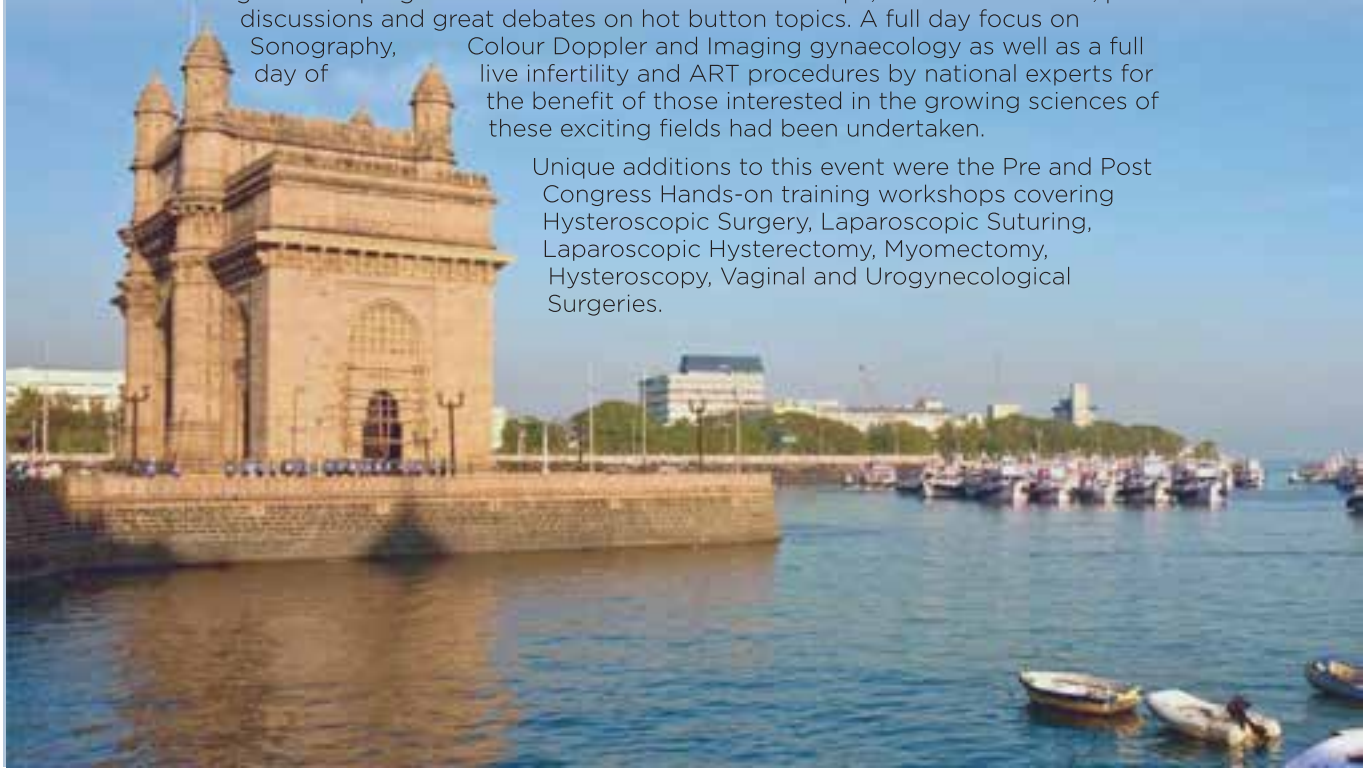
Dr. Rajendra Sankpal
IAGE Presidet & Program Co-Chair

We are proud of **Dr. Prakash Trivedi**, Program-chair and **Dr. Rajendra Sankpal**, Program co-chair, **Dr. Arnold P. Advincula**, President-AAGL and **Jon I. Einarsson**, Vice-president-AAGL for organizing the 12th AAGL International Congress on Ultimate Advances in Minimally Invasive Gynaecologic Surgery being held in Mumbai, India, from June 2-5, 2016.

The Scientific Program Committee, led by Dr. Prakash Trivedi and Dr.Rajendra Sankpal planned an exciting program, reflecting the international standards and day-to-day needs of our colleagues in their practice in the era of modern gynaecology. An incredible panel of invited faculty experts from throughout India and the world (USA, Europe, Australia and Russia) had demonstrated their skills in the field of laparoscopy, hysteroscopy, robotic, vaginal and urogynecological surgery. Adding to this truly historic event, a ground breaking feature was the 2 days of live surgeries conducted in 13 operative theatres throughout Mumbai. This represented the largest live tele surgery undertaking at an AAGL International Congress yet.

A Master's class had been meticulously designed around 8 important topics to offer take home learning and practical solutions required for our own practice. Woven throughout the program were various hands-on workshops, scientific sessions, panel discussions and great debates on hot button topics. A full day focus on Sonography, Colour Doppler and Imaging gynaecology as well as a full day of live infertility and ART procedures by national experts for the benefit of those interested in the growing sciences of these exciting fields had been undertaken.

Unique additions to this event were the Pre and Post Congress Hands-on training workshops covering Hysteroscopic Surgery, Laparoscopic Suturing, Laparoscopic Hysterectomy, Myomectomy, Hysteroscopy, Vaginal and Urogynecological Surgeries.



CONFERENCES AND LIVE ENDOSCOPY WORKSHOPS

12th AAGL International Congress on " The Ultimate Advances in Minimally Invasive Gynaecological Survey" along with IAGE on **June 2-5,2016** at Renaissance Mumbai Convention Centre Hotel, Mumbai

ENDOVISION 2016: IAGE, South Zone conference scheduled on **16th & 17th July 2016** at St.Johns Auditorium, Bengaluru This Conference is organised by IAGE and BSOG

Live Endoscopy Workshop & Fertility Conference: IAGE in Collaboration with North East ISAR: Hotel Imphal, Imphal, **August 6-7, 2016**

IAGE Annual Conference: "BAGE 2016", Bhuvaneshwar, Orissa on **September 9-11, 2016**

International Conference & Live Surgery Workshop:

IAGE in Association with Dr Paul's Hospital. September 30-October 2, 2016. The Center Hotel, Kochi

Live Endoscopy Workshop and International Conference: Aurangabad, **December 16-18, 2016**

ENDOGYN 2017: International conference of IAGE in Association with FOGSI & Bengal Obstetric & Gynecological Society, Venue: Hyatt Regency Hotel, Kolkatta, **March 3-5, 2017, Kolkatta**

For details Contact:
IAGE Office Secretary
Mrs. Sonali Naugam
9987524000

GYNAECON 2015
a report

Nagpur Obstetric and Gynecological Society (NOGS) with IAGE organised a mega event "GYNAECON 2015" under the leadership of Dr Indrajeet Mulik, President NOGS and Dr Sandeep Nikhade, Secretary General NOGS. Two day event was held at Nagpur on 24th & 25th October 2015 at Hotel Radisson Blu. On October 24, 2015 live operative endoscopy workshop was conducted at Omega Hospital whereby eminent faculties such as Dr. Rakesh Sinha, Dr. Rajendra Sankpal, Dr. Krishna Kumar, Dr. Deepak Limbachiya, Dr. R. Modi, Dr. Sandeep Nikhade, Dr. C. Shembhekar, Dr. Ashish Kubde & Dr. Prateek Kherde demonstrated and taught more than 10 surgeries including variety of TLHs, Radical Hysterectomy, Myomectomy, neovagina creation etc. On October 25 the conference was inaugurated by Dr. Rajendra Sankpal, Dr. Nandita Palshetkar as Chief Guests and Guest of honour Dr. Sapna Sharma.Scientific committee chaired by Dr Mangal Ghisad put all their efforts to cover the wide variety of topics. Total 424 delegates attended the conference and enlightened themselves from the galaxy of the speakers who presented their subject preciselyl.

Recurrent Endometriosis

Dr. Sunita Tandulwadkar
MD (ObGy), FICS (Endo Surgery), FICOG, Dip in Endoscopy (USA & Germany)
Founder & Medical Advisor, Solo StemCells, Pune
Head of Department of Obstetrics & Gynaecology, Ruby Hall Clinic, Pune
Chief, Ruby Hall IVF & Endoscopy Centre,Pune

Dr. Manasi Naralkar
DNB (ObGy), Fellowship in Reproductive Medicine and Endoscopy

Endometriosis is becoming an increasingly common condition to be dealt with by fertility specialists and gynaecologists all over the world, probably owing to better diagnostic modalities available, awareness about the condition as well as the trend to delay pregnancy. The theories behind the pathogenesis of endometriosis are myriad, right from Sampson's retrograde menstruation theory, coelomic metaplasia, role of hormones, oxidative stress, immune dysfunction, apoptosis suppression, genetic to the role of endometrial stem cells.[1]

Recurrent endometriosis has also become a common entity, owing to a variety of reasons. Firstly, the currently available treatment of endometriosis entails removal of the disease, or treatment of symptoms rather than correction of the pathology. Persistence of pathogenetic mechanisms and the trend towards delaying the pregnancy may act synergistically. Also, it has been proposed that recurrent endometriosis may comprise a biologically more aggressive disease subgroup with an adverse prognosis. [2]

Postoperative recurrence rates after 3 years may be upto **15 to 30%,** with half these patients requiring reoperation.[3] However, reported recurrence rates vary with different studies- different locations of endometriosis, definition of recurrence used (subjective feeling of pain or more objective clinical/ instrumental measurements), type of endometriosis, methods of surgery or post-operation intervention, if any, disease severity, type of hospital where the surgery is performed and the skills of the surgeons who performed the surgery. [4] A study in 2009 by a Chinese group reported a high recurrence rate, estimated as 21.5% at 2 years and 40-50% at 5 years. [4]

It is possible to predict the recurrence of endometriosis based on a few risk factors. Age has shown to be an independent risk factor. Younger age at the time of surgery (< 25 years) may be associated with an increased risk of recurrence. [5,6] Severity of the disease, as evidenced by the presence of bilateral ovarian endometriomas at the time of diagnosis, larger cyst size (>8cms), Revised American Fertility Society Classification System ovarian adhesion score > 24, complete cul-de-sac obliteration or pre-operative cyst rupture are associated with an increased risk of recurrence. [5,6] The type of surgery performed also plays a role, and laparoscopy has a higher percentage of symptom-free patients than laparotomy (49.0% vs 33.3%) and lesser recurrence rate. [5] However, extent of surgical excision does play a role, and ovarian preservation is associated with recurrence of disease. [4, 7] However, deciding the radicality of the surgery could prove to be a double edged sword, since a more radical surgery could lead to impaired ovarian reserve, whereas a less radical surgery could, in turn, increase the chances of recurrence. Recurrence is more common when the endometrioma is removed piecemeal and the tissue planes are scarred. It is also seen to recur more frequently when the ovarian reserve is better.

Hence, the ESHRE Guidelines of 2014 recommend that when performing surgery in women with ovarian endometrioma, clinicians should perform cystectomy instead of drainage and coagulation, as cystectomy reduces endometriosis-associated pain. Clinicians can consider performing cystectomy rather than CO_2 laser vaporization in women with ovarian endometrioma, because of a lower recurrence rate of the endometrioma. [8]

Pregnancy, post operative Progestin use, OC pill use and the use of adjuvant therapy such as GnRH agonists have been shown to be protective factors against the recurrence of endometriosis.[4]

On a molecular level, the aberrant expression of StAR (Steroidogenic Acute Regulatory protein) and aromatase is thought to promote the development of endometriosis. (Tsai et al., 2001; Bulun et al., 2005). Increased expression of COX-2 has been shown to lead to increased vascular endothelial growth factor-A expression leading to enhanced angiogenesis, and may enhance cell migration and invasiveness (Tsujii et al., 1998). [4] However, the use of these biomarkers in clinical practice is limited, and the ESHRE guidelines (2014) suggest that biomarkers in endometrial tissue, menstrual or uterine fluids and/or immunological biomarkers, including CA-125, in plasma, urine or serum, should not be used to diagnose endometriosis/ recurrence. [8]

PREVENTION OF RECURRENCE:

Secondary prevention is defined as interventions to prevent the recurrence of pain symptoms or the recurrence of disease in the long-term, defined as more than 6 months after surgery.[8] For the secondary prevention, the ESHRE Guidelines (2014) recommend the following- [8]

- In women operated on for an endometrioma (e"3 cm), clinicians should perform ovarian cystectomy, instead of drainage and electrocoagulation, for the secondary prevention of endometriosis-associated dysmenorrhoea, dyspareunia and non-menstrual pelvic pain.
- After cystectomy for ovarian endometrioma in women not immediately seeking

conception, clinicians are recommended to prescribe combined hormonal contraceptives for the secondary prevention of endometrioma.

- In women operated on for endometriosis, clinicians are recommended to prescribe post-operative use of a LNG-IUS or a combined hormonal contraceptive for at least 18–24 months, as one of the options for the secondary prevention of endometriosis-associated dysmenorrhoea, but not for non-menstrual pelvic pain or dyspareunia.

A prospective randomized controlled trial of 2013, which compared the medical and surgical modalities of treatment of endometriosis stated that all treatment options, independent of the initial Endometriosis Classification stage, achieved an overall cure rate of e"50%. A cure rate of 60% was achieved with the combined treatment (surgery + hormones), 55% with exclusively hormone therapy, and 50% with exclusively surgical treatment. Recurrence of symptoms was lowest in patients who received combined treatment. [9]

A recent meta-analysis by Zheng et al, published in 2016 concluded that postoperative GnRH-a treatment for endometriosis (pooled OR = 0.71; 95 % CI 0.52–0.96) was superior to expectant or placebo treatment in prevention of the recurrence. Longer-term (6 months) postoperative administration of GnRH-a can decrease the recurrence risk of endometriosis, whereas 3 months duration of GnRH-a therapy makes no significant difference in preventing the recurrence of endometriosis. Therefore, instead of a 3 month therapy, the duration of the postoperative administration should be longer enough (6 months) to prevent the recurrence of endometriosis. [10]

Several studies have evaluated the role of adjuvants such as Dienogest or Pentoxifylline in prevention of recurrence. Dienogest significantly prevented postoperative endometrioma recurrence (4% recurrence rate vs. 69% in the no-Dienogest group). However, side effects such as metrorrhagia and a decreased bone mineral density were observed. Therefore, careful long-term follow up is necessary. [11] However, Pentoxifylline does not have a proven benefit in the prevention of recurrence.

MANAGEMENT OF RECURRENT ENDOMETRIOSIS:

The chief concerns faced in a patient with recurrent endometriosis include impaired quality of life (due to pain) or infertility, whereas in a few, recurrence may be asymptomatic. Management of recurrence mainly depends upon the symptoms faced and the severity.

Pain associated with recurrence can be managed expectantly, or through medical therapies such as analgesics, GnRh analogues, OC pills, or by re-surgery in the form of re- excision, Nerve ablation surgeries- LUNA/ Presacral neurectomy, Oopherectomy, Hysterectomy/ Radical surgery. With regards to medical therapy, the ESHRE guidelines of 2014 recommend that clinicians may prescribe hormonal treatment [hormonal contraceptives (Level B), progestagens (Level A), anti-progestagens (Level A), or GnRH agonists (Level A)] as one of the options. The GDG recommends that clinicians take patient preferences, side effects, efficacy, costs and availability into consideration when choosing hormonal treatment for endometriosis-associated pain. [8]

Before opting for repeat surgery, it is essential to counsel the patient that the recurrence rate (5 year cumulative pain) in 20% after the first surgical procedure and 17% after the second. [12] The effect of re-excision on pain is similar to the first time.

Hence, there have been widespread debates on the addition of nerve ablative surgeries for the management of pain. According to the ASRM Committee Opinion of 2014, PSN (Presacral Neurectomy) has been reported as an effective procedure in reducing pain recurrences in women undergoing first-line surgical treatment of endometriosis. Although no data are available in women with recurrent endometriosis, it might be argued that women with recurrent pain are those in whom the greatest surgical effort should be made in order to cure the disease, including therefore PSN. [13] However, the use of PSN is fraught with several limitations as well. It is effective in reducing midline pain only, whereas lateral, adnexal pain is not influenced, denervation of bowel and bladder might cause constipation and urinary dysfunction and it must be performed by an experienced surgeon because it is carried out in a complex anatomic area and great care must be taken to avoid damaging the right ureter as well as major and midsacral vessels. LUNA (Laparoscopic Uterosacral Nerve Ablation) is not recommended as a management option for pain associated with recurrent endometriosis. [8]

The ESHRE guidelines recommend that clinicians consider hysterectomy with removal of the ovaries and all visible endometriosis lesions in women who have completed their family and failed to respond to more conservative treatments. Women should be informed that hysterectomy will not necessarily cure the symptoms or the disease.[8]

In infertile women with recurrence of endometriosis, clinicians should not prescribe hormonal treatment for suppression of ovarian function to improve fertility, either alone or adjunctive to surgery. [8]

In the debate of repeat surgery versus ART in women with recurrent endometriosis, Vercellini et al in 2009 came to a conclusion that when reoperation is being considered with the specific aim of achieving conception, and not because severe symptoms or large cysts are present, the clinician should warn the patient that the chances of pregnancy may be substantially lower than after the primary procedure and the role of IVF should be considered adequately as an alternative to repetitive surgery. In a retrospective study in 41 women by Kemmannan et al, cumulative pregnancy rate after 2 IVF cycles was found to be 70%, whereas that after 9 months of surgery has been shown to be 24%. A study by

Garcia et al in 2004 studied whether one should undertake surgery prior to IVF concluded that the number of oocytes retrieved were 10.8 in the post surgery group versus 11.8 in the non-surgery group, whereas the clinical pregnancy rate was 25.4% versus 22.7% in the two groups respectively. There was also no correlation between the size and the number of endometriomas with the number of retrieved oocytes.

The study by Prof Tulandi, Reinblatt et al published in 2011 on the effect of endometrioma on embryo quality concluded that the presence of endometriomas during IVF treatment is not associated with reduced embryo quality.

A study be Benaglia et al in 2013 showed that the presence of bilateral endometriomas at the time of IVF seems to affect responsiveness to hyperstimulation but the quality of the oocytes retrieved and the chances of pregnancy are not affected.

The Practice Committee of ASRM in 2012 gave the following guidelines for the management of infertile women with endometriosis who have previously had one or more infertility operations- [14]

- IVF-ET is often a better therapeutic option than another surgical intervention, though this is another question that has not been addressed in any randomized trial.
- If initial surgery fails to restore fertility in patients with moderate to severe endometriosis, IVF-ET is an effective alternative.
- Current data are insufficient to estimate the effect of surgical treatment in addition to IVF-ET on the outcome of pregnancy in endometriosis associated infertility.

While deciding the stimulation regimes in ART, the ESHRE Guidelines of 2014 suggest that there is no significant difference between the agonist or antagonist protocol.[8]

ASRM/ ESHRE also recommend that there is no need to treat asymptomatic women with recurrent endometriosis who are not planning pregnancy in the future.

Another issue raising concerns about recurrent endometriosis was the projected association between endometriosis and ovarian cancer. The Ovarian Cancer Association Consortium in 2012 suggested that there might be a two-fold risk in women with endometriosis and a four-fold risk in women with endometriosis and infertility. The etiology of both diseases appears to be multifactorial with hormonal, genetic, and immunologic factors potentially playing a role.

However, the ESHRE Guidelines of 2014 state that:

Clinicians should inform women with endometriosis requesting information on their risk of developing cancer that:

1.There is no evidence that endometriosis causes cancer,

2.There is no increase in overall incidence of cancer in women with endometriosis,

3.Some cancers (ovarian cancer and non-Hodgkin's lymphoma) are slightly more common in women with endometriosis.

However, there should be no change in the current overall management of endometriosis in relation to malignancies, since there are no clinical data on how to lower the slightly increased risk of ovarian cancer or non-Hodgkin's lymphoma in women with endometriosis. [8]

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Management of Severe Ashermans Disease

DR S Krishnakumar
Hon Treasurer IAGE

Dr. Rohan Krishnakumar
Dr. Pratik Tambe

Asherman syndrome (fig 1) is an acquired condition characterized by the formation of adhesions in the uterine cavity. Though Joseph G Asherman in 1948, published series of papers to describe whole picture of this condition, and Ashermans syndrome has been used to describe the disease ever since. There has been an increase in the number of cases of this syndrome in the last 60 years. With the advent of endoscopy, not only there has been an improvement in the understanding of this condition, it is now more amenable to treatment with improvement in reproductive outcomes, which hitherto had poor prognosis.

DEFINITION

As per Asherman's original definition, the syndrome was a consequence of trauma to the endometrium resulting in partial or complete obliteration of the uterine cavity and or the cervical canal, resulting in conditions such as menstrual abnormalities, infertility and recurrent pregnancy loss. After injury to the endometrium, fibrosis may follow with potential to formation of adhesions of the opposing surfaces. In severe asherman's disease, adhesions usually are not limited to endometrium, but also will involve underlying myometrium. Delay in diagnosing and treatment will attract more dense adhesions with subsequent poor results..

PREVALENCE

The prevalence of the severe asherman's varies,(25-40%) geographically as well as the type of investigation used for the diagnosis. In a country like India the incidence can be much more than reported because of following factors: 1. High number of both therapeutic and illegal abortions. 2. Use of sharp curettage for performing the same.3. Higher incidence of genital tuberculosis and puerperal infection. 4. Lower awareness of the clinical condition till now.

CLASSIFICATION

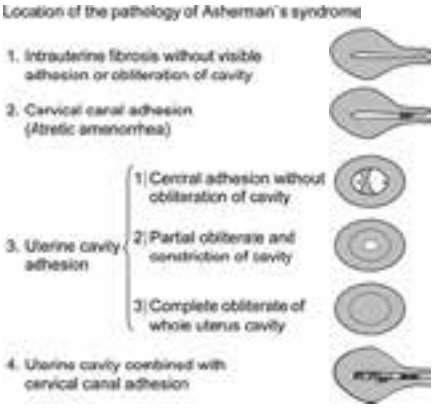
Over time, a variety of classification of the syndrome (March,Hamouetal, Wamstekar & American fertility society) have been based on different diagnostic tools. However, none of these classifications took into account the various clinical presentations, especially with regard to the menstrual history.

Also none of these classification systems have been validated by clinical studies, and no one has used them uniformly when reporting outcome after treatment of intrauterine adhesion, which may reflect inherent deficiencies in all of these proposed systems.

DIAGNOSIS

Clinical-Pathological Correlation

The clinical features are closely associated with pathologic findings, such as location of adhesions, depth of fibrosis and extent of the pathological changes. The location of the adhesion can include the cervical canal, uterine cavity, or both cervical canal and uterine cavity (Fig 2)



Intracervical adhesions or stenosis causes obstructive amenorrhea with periodic abdominal discomfort. There may be a normal uterine cavity and good prognosis after treatment. Commonly adhesions are in the uterine cavity and it has several subcategories, which are characterized as central adhesions without constriction of the cavity, partial obliteration of the cavity with constriction, and complete obliteration of the cavity. The extent of the disease can be confirmed by hysteroscopy and also influence the prognosis after treatment. Patients with central intrauterine adhesions always have some normal endometrium and a relatively normal cavity, with a better prognosis. Amenorrhea and infertility are the two most common accompanying clinical features in patients with partial or complete obliteration of cavity, with very poor prognosis for pregnancy. In some cases, the adhesions can be located in both cervical canal and cavity of the uterus. The prognosis such as normal menses and fertility depends very much on the severity and extent of the adhesions.

INVESTIGATIONS:

Guidelines for diagnosis of IUAs (AAGL- Practice Guidelines)

1. Hysteroscopy is the most accurate method for diagnosis of IUAs and should be the investigation of choice when available. Level B
2. If hysteroscopy is not available, HSG and hysterosonography are reasonable alternatives. Level B.

MANAGEMENT

Surgery is the only treatment modality available in symptomatic intrauterine adhesions. There are

no randomized control trials of any treatment vs expectant management or any other treatment.

The objective of treatment is:

1. To restore the shape and volume of the uterine cavity to normal
2. To facilitate communication between the cavity and both the cervical canal and the fallopian tubes.
3. Treat associated symptoms including infertility and prevent recurrence of adhesions

HYSTEROSCOPIC ADHESIOLYSIS

Hysteroscopic surgery is now the treatment of choice for Asherman's syndrome, because it can be performed under vision with minimal trauma. Today with increasing application of miniature hysteroscopes(2.9mm, 2.7mm & 1.9mm) with overall diameter of operative sheath reduced to 3.5mm, even in very difficult cases of cervical stenosis and adhesions it is easy to negotiate and complete a good job inside the uterine cavity. Today we can plan before beginning of any hysteroscopic surgery whether one has to use operative hysteroscopy or resectoscopic surgery.

It is imperative that one adapts the vaginoscopic approach for hysteroscopy as one can appreciate all adhesions right from the cervical canal and negotiate the cervical canal under vision. It is important to perform first a complete diagnostic evaluation of the cervical canal and uterine cavity to familiarize with the anatomical landmarks inside the uterine cavity, before embarking upon any adhesiolysis. Also one has to remember that Intra uterine adhesiolysis should be attempted, by an experienced hysteroscopic surgeon.

OPERATIVE HYSTEROSCOPY:

Adhesiolysis usually begins inferiorly and can be advanced cephalically until the uterine architecture has been normalized. Adhesiolysis can be performed through operative hysteroscopy by using:

a. Hysteroscopic Scissors
b. Bipolar versapoint

Adhesiolysis performed using scissors has the advantage that it permits dissection and avoids complication related to energy sources and possibly minimises the destruction of endometrium. Adhesions in the cervical canal and at the level of internal os can be many a time negotiated by just opening the blades of the scissors and only use the blades for cutting if the adhesions cannot be negotiated. In general filmy and central adhesions should be divided first as these are more easily distinguished; marginal and dense adhesions are more difficult to identify, and divisions of these adhesions, sometimes may be difficult to manage with scissors, especially if the experience of the surgeon is limited.

Versapoint electrodes are excellent tools as they can be used at achieve precise cutting and good hemostasis. Another advantage of versapoint is one can use normal saline, since it is a bipolar modality. But the main disadvantage of the electrodes is they are very delicate and does not last for many cases, adding to the cost.

Whenever it is not possible to lyse the adhesions with scissors or versapoint one can opt for recectoscopic surgery with Collins knife. While using resectoscope , both monopolar or bipolar electrodes can be used, though the latter would be preferable as both the distension media and energy source is much safer and one can possibly avoid the complications associated with glycine. With resectoscope, the dilatation required is more and in severe cases of Ashermans, dilatation can not only be difficult but also can lead to complications, namely false passage and perforation. Hence it will be always advantageous to perform office hysteroscopy with miniature telescopes and be well versed with the direction and length of the cervical canal and uterine cavity. By diagnostic hysteroscopy with miniature hysteroscopes, not only we can minimize the mechanical complications like perforation and false passage, but also get a complete view of the anatomy and grade the adhesions (FIG 10), which can all be disturbed by introduction of larger diameter resectoscope. Whenever thermal energy is used to divide adhesions, minimum amount of energy must be used to avoid further damage of endometrial tissue. With resectoscope one is able to control the direction of adhesiolysis much better and dense adhesions can also be cut more precisely. Whenever one is using energy for adhesiolysis, all safety guidelines for hysteroscopic surgery should be followed and one should always keep the tubal ostia under vision. Whenever energy is used, there is an increased risk of visceral damage if uterine perforation occurs, and theoretically additional endometrial damage may predispose to recurrence of intrauterine adhesions. In severe asherman's one may not always be able to visualise either one or both tubal ostia, and in these cases the skill and experience of the surgeon can be tested . In some instances, even after extensive hysteroscopic adhesiolysis, intrauterine landmarks remain obscure; and one shouldn't continue the adhesiolysis just to see the tubal ostia in these cases. One must stop the procedure if adequate uterine cavity size and shape is created and in second look hysteroscopy one may see the tubal ostia clearly, though it may not be seen in the first sitting. When one encounters severe tubular cavity with severe adhesions, myometrial scoring (FIG 11) is effective for creation of cavity in women with severe IUAs, In this technique, 6to 8 4mmdeep incisions are created in the myometrium using Collins knife electrode from fundus to cervix. These incisions enable widening of the uterine cavity.

None of these techniques has been compared with other; consequently there is no available evidence that one method is superior. But as with any repair surgery results will be better in the first sitting, and any subsequent attempts, there will be a fall in the prognosis. But it is also important to counsel all patients with severe adhesions that a second look hysteroscopy will give better prognosis.