Panel Session 4: 
Role of the MIG Surgeon in Infertility

PROGRAM CHAIR
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Professional Education Information

Target Audience
This educational activity is developed to meet the needs of surgical gynecologists in practice and in training, as well as other healthcare professionals in the field of gynecology.

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Panel Session 4: Role of the MIG Surgeon in Infertility

G. David Adamson, Chair
Faculty: Leila V. Adamyan, Tommaso Falcone, Antonio R. Gargiulo

This session provides a comprehensive overview of the MIG surgeon’s role in Infertility. While infertility applications led early innovation of operative endoscopy, subsequent expansion to other surgical specialties and increasing utilization of ART resulted in a perceived decrease in the need for MIG infertility surgery. However, this is not true. Four expert, experienced international MIG surgeons will describe principles and principal applications of MIG surgery in today’s changed infertility world. Discussion will include management of endometriomas, endometriosis, and infiltrating disease; treatment by laparoscopy of pelvic adhesions; distal tubal injury/occlusion, and proximal tubal occlusion by hysteroscopy. Laparoscopic and/or hysteroscopic management of myomas, adenomyosis, septum, intrauterine adhesions and polyps will be debated. The panel will focus on situations that gynecological surgeons encounter frequently in daily practice, with emphasis on practical application and optimal patient care.

Learning Objectives: At the conclusion of this course, the clinician will be able to: 1) Make evidence-based decisions regarding patient selection and MIG surgical procedures on infertility patients.

Course Outline

3:25 Welcome, Introductions and Course Overview G.D. Adamson
3:30 Management of Endometriomas, Endometriosis and Infiltrating Disease T. Falcone
3:40 Laparoscopic Treatment of Pelvic Adhesions and Distal Tubal Injury/Occlusion and Hysteroscopic Treatment of Proximal Tubal Occlusion A.R. Gargiulo
3:50 Laparoscopic and/or Hysteroscopic Management of Myomas, Adenomyosis, Septum, Intrauterine Adhesions and Polyps L.V. Adamyan
4:00 Summary of Presentations and Questions for Panel G.D. Adamson
4:10 Panel Discussion All Faculty
5:05 Adjourn
PLANNER DISCLOSURE
The following members of AAGL have been involved in the educational planning of this workshop (listed in alphabetical order by last name).
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G. David Adamson
Consultant: AbbVie, Bayer Healthcare Corp.
Stock Ownership: Ziva
Leila V. Adamyan*
Tommaso Falcone*
Antonio R. Gargiulo
Consultant: OmniGuide, Medicaroid
Content Reviewer has no relationships.

Asterisk (*) denotes no financial relationships to disclose.
Learning objectives
At the conclusion of this presentation, participants should be able to:
- Discuss the impact of surgery on fertility outcome
- Assess the pain outcome of medical or surgical treatment of endometriosis.
- Discuss the recurrence risk after medical or surgical management of women with chronic pelvic pain & endometriosis

Spontaneous Pregnancy after Endometrioma Removal
- Cochrane database 2008 Hart R et al.
  2 RCT's:
  - Excision of cyst associated with a reduced rate of recurrence; reduced symptom recurrence and increased spontaneous pregnancy rates (OR 5.1) compared with ablative surgery.

Impact of Excision on Ovarian Reserve: Cleveland Clinic AJOG 2016
- The pool of oocytes available=ovarian reserve
- At baseline, patients with endometriomas had significantly lower anti-Müllerian hormone values compared with women without endometriosis.
- Surgical excision of endometriomas appears to have temporary detrimental effects on ovarian reserve.

Systematic Reviews, Meta-analysis & Cochrane review: Intervention for Women with endometrioma prior to ART
  5 studies: No treatment versus surgery before IVF
  - No difference in clinical pregnancy rate
  - No significant difference in outcome (PR/oocytes retrieved/embryos/gonadotropins/estradiol)
- Cochrane database Syst Rev 2010: Benschop et al
  4 trials-
  Ovarian cystectomy or aspiration does not yield improved clinical PR

Financial Disclosure
- I have no financial relationships to disclose
How do you decide: Chance of spontaneous pregnancy vs. need for IVF

Deeply Infiltrating Endometriosis: (DIE)

- Bianchi et al JMIG 2009
  - Improved outcomes with IVF after removal of DIE
  - N=105: IVF no resection of DIE: PR- 34%
  - N=44- extensive resection then IVF-41%

- Mathieu d’Argent et al F&S 2010
  - IVF outcome the same with untreated colorectal endometriosis as controls (N=29 vs. N=157 tubal factor vs. N= 340 male factor)
  - The effectiveness of surgical excision of deep nodular lesions before treatment with assisted reproductive technologies in women with endometriosis-associated infertility is not well established with regard to reproductive outcome

References


LEARNING OBJECTIVES

COUNSEL INFERTILE PATIENTS ON:
- ROLE OF LAPAROSCOPY IN ADHESIOLYSIS
- ROLE OF LAPAROSCOPY IN DTO
- ROLE OF HYSTEROGRAPHY IN PTO
- ROLE OF ART IN TUBAL INFERTILITY

LAPAROSCOPY FOR DTO

- Adhesions interfere with gamete and embryo transport
- Surgery can restore anatomic integrity, not functional integrity (case selection!)
- Salpingo-ovariolysis: PR 50-60%
- Fimbrioplasty: PR 40-50%
- Neosalpingostomy: PR 20-30%
- Neosalpingostomy before IVF: consider in mild hydrosalpinges, no male factor, young

LAPAROSCOPY FOR PTO

- Debris, adhesions, polyps may occlude tube
- Hysteroscopic cath has diagnostic and therapeutic value
- Hysteroscopic cath more effective than fluoroscopic (PR: 49% vs 21%)
- Hysteroscopic cath is safer than cornual microsurgery (Ectopic: 0% vs 29%)
- Contraindications: infections, inflammation, male factor, prior tubal surgery

HYSTEROSCOPY FOR PTO

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- Hysteroscopic cath has diagnostic and therapeutic value
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- Contraindications: infections, inflammation, male factor, prior tubal surgery
• Current USA cumulative delivery rate after 3 ART cycles is 54% (higher for tubal factor)
• Not covered by most health plans
• Results highly variable (by center/nation)
• Current risk of multiples is limited by blastocyst culture, PGS, vitrification
• Current risk of OHSS are negligible
• ART is first line for male factor, advanced maternal age

Randomized trials are non-existent
• Adhesiolysis is mildly effective
• Distal tubal surgery can be effective in select cases
• Hysteroscopic catheterization can be effective in select cases
• Surgeons must be knowledgeable ART alternative and assist patient-centered choice

REFERENCES

LAPAROSCOPIC AND/OR HYSTEROSCOPIC MANAGEMENT OF MYOMAS, ADENOMYOSIS, UTERINE ADHESIONS, SEPTA, AND POLYPS

Adamyan L.V.

Russian Scientific Center for Obstetrics, Gynecology, and Perinatology
Moscow, Russia

I HAVE NO FINANCIAL RELATIONS TO DISCLOSE.

Learning Objectives

• Explain the impact of myoma, adenomyosis, uterine septa, uterine adhesions, and polyps on fertility
• Discuss the influence of reproductive surgery on IVF results


Endoscopic technologies improves pregnancy rate up to 15-20%

82%
7,257
LS
HRS
4%
LT
25%

<1 CASE
OF SARCOMA

Myoma
• Perform myomectomy before IVF if:
  • Submucosal myoma
  • Myoma > 4 cm
  • Multiple myoma
• Use of proper suture material/ anti-adhesive materials
• Sarcoma suspected (endobags)


UTERINE SEPTUM
• High rate of miscarriage
• High rate of infertility
• Use of various energy sources
• Concomitant gynecological pathology
• Cyclic hormonal therapy
• Prophylactic resection before IVF?

75% of patients with previous surgery
35-40% of patients with combined forms

1370 op – endometriotic cyst
3990 op – external genital endometriosis & adenomyosis
1370 op – retrocervical endometriosis
52 modular adenomyosis

ADENOMYOSIS
• High rate of infertility and miscarriage
• Uterus-preserving surgery in patients who seek to become pregnant is possible in nodular form of the disease (high risk of recurrence)
• HS and HRS in the treatment of adenomyosis
• Laparoscopic excision of nodular/cystic adenomyosis (original experience 92 cases)
• Reconstruction of the uterine wall using absorbable suture layer by layer
**Hysteroscopy in patients with infertility**

Various intrauterine pathology is observed in 23% of patients with infertility [Fatemi H.M., Hum Reprod 2011].

- Normal endometrium
- Polyp
- Chronic endometritis
- Adenomyosis
- Hyperplasia
- Synechia
- Submucosal myoma
- Septum

Currently, there is evidence that performing hysteroscopy before IVF could increase the chance of pregnancy in the subsequent IVF cycle in women who have had one or more failed IVF cycles.

**ADHESIONS/POLYP**
- Diagnostic hysteroscopy should be performed after 2 or more IVF failures
- Damaged uterine receptivity
- Histological investigation
- Use of mechanical instruments
- Use of cyclic hormonal/antibacterial therapy after synechiae resection

Stem cells therapy?

37.7% had 2 or more unsuccessful attempts of IVF and ET

**References**

- Rackow BW. Taylor HS. Submucosal uterine leiomyomata have a global effect on molecular determinants of endometrial receptivity. Fertil Steril, 2012
- Rackow BW. Taylor HS. Endometrial polyps affect uterine receptivity. Fertil Steril. 2011
- Fatemi H.M. Prevalence of unsuspected uterine cavity abnormalities diagnosed by office hysteroscopy prior to in vitro fertilization. Hum Reprod 2011
CULTURAL AND LINGUISTIC COMPETENCY

Governor Arnold Schwarzenegger signed into law AB 1195 (eff. 7/1/06) requiring local CME providers, such as the AAGL, to assist in enhancing the cultural and linguistic competency of California’s physicians (researchers and doctors without patient contact are exempt). This mandate follows the federal Civil Rights Act of 1964, Executive Order 13166 (2000) and the Dymally-Alatorre Bilingual Services Act (1973), all of which recognize, as confirmed by the US Census Bureau, that substantial numbers of patients possess limited English proficiency (LEP).

California Business & Professions Code §2190.1(c)(3) requires a review and explanation of the laws identified above so as to fulfill AAGL’s obligations pursuant to California law. Additional guidance is provided by the Institute for Medical Quality at http://www.imq.org

Title VI of the Civil Rights Act of 1964 prohibits recipients of federal financial assistance from discriminating against or otherwise excluding individuals on the basis of race, color, or national origin in any of their activities. In 1974, the US Supreme Court recognized LEP individuals as potential victims of national origin discrimination. In all situations, federal agencies are required to assess the number or proportion of LEP individuals in the eligible service population, the frequency with which they come into contact with the program, the importance of the services, and the resources available to the recipient, including the mix of oral and written language services. Additional details may be found in the Department of Justice Policy Guidance Document: Enforcement of Title VI of the Civil Rights Act of 1964 http://www.usdoj.gov/crt/cor/pubs.htm.

Executive Order 13166, “Improving Access to Services for Persons with Limited English Proficiency”, signed by the President on August 11, 2000 http://www.usdoj.gov/crt/cor/13166.htm was the genesis of the Guidance Document mentioned above. The Executive Order requires all federal agencies, including those which provide federal financial assistance, to examine the services they provide, identify any need for services to LEP individuals, and develop and implement a system to provide those services so LEP persons can have meaningful access.

Dymally-Alatorre Bilingual Services Act (California Government Code §7290 et seq.) requires every California state agency which either provides information to, or has contact with, the public to provide bilingual interpreters as well as translated materials explaining those services whenever the local agency serves LEP members of a group whose numbers exceed 5% of the general population.

If you add staff to assist with LEP patients, confirm their translation skills, not just their language skills. A 2007 Northern California study from Sutter Health confirmed that being bilingual does not guarantee competence as a medical interpreter. http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2078538.