SYLLABUS

PLENARY 7: Reproductive
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.

Accreditation
AAGL is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The AAGL designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Disclosure of Relevant Financial Relationships
As a provider accredited by the Accreditation Council for Continuing Medical Education, AAGL must ensure balance, independence, and objectivity in all CME activities to promote improvements in health care and not proprietary interests of a commercial interest. The provider controls all decisions related to identification of CME needs, determination of educational objectives, selection and presentation of content, selection of all persons and organizations that will be in a position to control the content, selection of educational methods, and evaluation of the activity. Course chairs, planning committee members, presenters, authors, moderators, panel members, and others in a position to control the content of this activity are required to disclose relevant financial relationships with commercial interests related to the subject matter of this educational activity. Learners are able to assess the potential for commercial bias in information when complete disclosure, resolution of conflicts of interest, and acknowledgment of commercial support are provided prior to the activity. Informed learners are the final safeguards in assuring that a CME activity is independent from commercial support. We believe this mechanism contributes to the transparency and accountability of CME.

Anti-Harassment Statement
AAGL encourages its members to interact with each other for the purposes of professional development and scholarly interchange so that all members may learn, network, and enjoy the company of colleagues in a professional atmosphere. Consequently, it is the policy of the AAGL to provide an environment free from all forms of discrimination, harassment, and retaliation to its members and guests at all regional educational meetings or courses, the annual global congress (i.e. annual meeting), and AAGL-hosted social events (AAGL sponsored activities). Every individual associated with the AAGL has a duty to maintain this environment free of harassment and intimidation.

AAGL encourages reporting all perceived incidents of harassment, discrimination, or retaliation. Any individual covered by this policy who believes that he or she has been subjected to such an inappropriate incident has two (2) options for reporting:

1. By toll free phone to AAGL’s confidential 3rd party hotline: (833) 995-AAGL (2245) during the AAGL Annual or Regional Meetings.
2. By email or phone to: The Executive Director, Linda Michels, at lmichels@aagl.org or (714) 503-6200.

All persons who witness potential harassment, discrimination, or other harmful behavior during AAGL sponsored activities may report the incident and be proactive in helping to mitigate or avoid that harm and to alert appropriate authorities if someone is in imminent physical danger.

For more information or to view the policy please go to:
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Plenary 7: Reproductive

Moderator: Christopher Eswar, Ping Liu

Description
This session presents several high-quality surgical videos as well as investigative analyses on a variety of topics concerning reproductive issues encountered in daily practice.

Objectives
Learning Objectives: At the conclusion of this activity, the participant will be able to: 1) Discuss different types of surgical techniques for reproductive issues.

3:05  Pregnancy Rates after Surgical Resection of Deep Infiltrating Endometriosis -a Systematic Review and Meta-Analysis  
      Discussant: M.W. Dassel

3:15  Robotic Assisted Laparoscopic Repair of Isthmocele  
      Discussant: L.L. Raymond

3:25  Hyaluronic Acid Gel Reduces the Rate of Intrauterine Adhesions after Dilatation and Curettage in Women with Miscarriage: Multicentric Prospective Randomized Controlled Trial (HYFACO Study)  
      Discussant: C.E. Bretschneider

3:35  Laparoscopic Relocation of the Ovaries after Prior Transposition  
      Discussant: M.M. Hanafi

3:45  Laparoscopic Repair of Isthmocele with Hysteroscopic Guidance  
      Discussant: R. Apostol

3:55  Utero-Vaginal Reanastomosis for Cervical Agenesis  
      Discussant: J.N. Casey
PLANNER DISCLOSURE
The following members of AAGL have been involved in the educational planning of this workshop (listed in alphabetical order by last name).
Art Arellano, Professional Education Director, AAGL*
Linda D. Bradley, Medical Director, AAGL*
Erin T. Carey
Consultant: MedIQ
Mark W. Dassel
Contracted Research: Myovant Sciences
Erica Dun*
Adi Katz*
Linda Michels, Executive Director, AAGL*
Erinn M. Myers
Speakers Bureau: Laborie Medical Technologies, Teleflex Medical
Other: Unrestricted educational grant to support NC FPMRS Fellow Cadaver Lab: Boston Scientific Corp. Inc.
Amy Park*
Grace Phan, Professional Education Specialist, AAGL*
Harold Y. Wu*
Linda C. Yang
Other: Ownership Interest: KLAAS LLC

FACULTY DISCLOSURE
The following have agreed to provide verbal disclosure of their relationships prior to their presentations. They have also agreed to support their presentations and clinical recommendations with the “best available evidence” from medical literature (in alphabetical order by last name).
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Sadikah Behbehani*
C. E. Bretschneider*
James N. Casey*
Mark W. Dassel
Contracted Research: Myovant Sciences
Christopher Eswar*
Magdi M. Hanafi*
Ping Liu*
Karim Nawfal*
Licia L. Raymond*
Jeremy Sroussi*
Jessica Traylor*
Catherine Z. Wu*

Content Reviewer has nothing to disclose.

Asterisk (*) denotes no financial relationships to disclose.

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Consultant: Applied Medical, Caldera Medical, CooperSurgical, Olympus
Amanda C. Yunke
Consultant: Olympus
Linda Michels, Executive Director, AAGL*
Pregnancy Rates after Surgical Resection of Deep Infiltrating Endometriosis - a Systematic Review and Meta-Analysis

Sadikah Behbehani, MD
Elena Suarez-Salvador, MD
Matthew Buras, Ph.D
Javier Magrina, MD

Disclosure
• I have no financial relationships to disclose

Objective
• Assess pregnancy rates after surgery for DIE, in infertile patients, and in women without proven infertility
• Determine route of postoperative pregnancy

Background:
• Surgery for deep infiltrating endometriosis (DIE) effective for treating pain
• Impact on fertility less clear
• ART readily available
• Delaying surgery, complications

Design:
• Systematic review and meta-analysis

Method:
• Electronic-based search: Pubmed, Embase, Scopus, Web of Science, and Cochrane Database
• Reporting both surgical resection of DIE (>5mm depth confirmed on pathology) and pregnancy rates
• Studies in English, French and Spanish in the last 10 years
• Meta-analysis applied
Results:

- Records identified through database searching (n = 162)
- Additional records identified through other sources (n = 10)
- Records after duplicates removed (n = 89)
- Full-text articles assessed for eligibility (n = 81)
- Studies included in qualitative synthesis (n = 35)
- Studies included in quantitative synthesis (meta-analysis) (n = 34)

Results:

- Full-text articles excluded (n = 46)
  - No pregnancy report
  - Review article
  - No follow-up time
  - Case report less than 5 patients
  - No deep endometriosis defined

Patients:

- 1,110 patients
- DIE locations:
  - Intestinal tract, genitourinary tract, and other non-visceral locations
- Follow up time ranged 12-96 months

Overall Pregnancy Rate:

- Pregnancy rate 53.7% (95% CI 47.7-59.5%)

Spontaneous Pregnancy Rate:

- Pregnancy rate 36.5% (95% CI 30.9-42.6%)

ART Pregnancy Rate:

- Pregnancy rate 23.7% (95% CI 17.6-31.1%)

Live Birth Rate:

- Pregnancy rate 47.1% (95% CI 40.9-54.3%)
Patients with previous infertility

• 17 studies
• 758 patients

Overall Pregnancy Rate:

<table>
<thead>
<tr>
<th>Study</th>
<th>Events</th>
<th>Pregnancy Rate</th>
<th>95% CI</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Darai</td>
<td>61</td>
<td>43.9%</td>
<td>39.3% – 48.9%</td>
<td>-</td>
</tr>
<tr>
<td>Motta</td>
<td>136</td>
<td>43.9%</td>
<td>39.3% – 48.9%</td>
<td>-</td>
</tr>
</tbody>
</table>

Overall Pregnancy Rate: 44.6% (95% CI 39.3 – 50.0%)

Spontaneous Pregnancy Rate:

<table>
<thead>
<tr>
<th>Study</th>
<th>Events</th>
<th>Pregnancy Rate</th>
<th>95% CI</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Darai</td>
<td>61</td>
<td>30.1%</td>
<td>24.8% – 35.8%</td>
<td>-</td>
</tr>
<tr>
<td>Motta</td>
<td>136</td>
<td>30.1%</td>
<td>24.8% – 35.8%</td>
<td>-</td>
</tr>
</tbody>
</table>

Spontaneous Pregnancy Rate: 30.1% (95% CI 24.8 – 35.8%)

ART Pregnancy Rate:

<table>
<thead>
<tr>
<th>Study</th>
<th>Events</th>
<th>Pregnancy Rate</th>
<th>95% CI</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Darai</td>
<td>61</td>
<td>21.6%</td>
<td>14.2% – 31.4%</td>
<td>-</td>
</tr>
<tr>
<td>Motta</td>
<td>136</td>
<td>21.6%</td>
<td>14.2% – 31.4%</td>
<td>-</td>
</tr>
</tbody>
</table>

ART Pregnancy Rate: 21.6% (95% CI 14.2 – 31.4%)

Live Birth Rate:

<table>
<thead>
<tr>
<th>Study</th>
<th>Events</th>
<th>Live Birth Rate</th>
<th>95% CI</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Darai</td>
<td>61</td>
<td>41.9%</td>
<td>35.2% – 48.9%</td>
<td>-</td>
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<tr>
<td>Motta</td>
<td>136</td>
<td>41.9%</td>
<td>35.2% – 48.9%</td>
<td>-</td>
</tr>
</tbody>
</table>

Live Birth Rate: 41.9% (95% CI 35.2 – 48.9%)

Conclusion

• Surgical resection alone of DIE: symptom resolution and ability to spontaneously conceive.

• In patients with infertility:
  • 53.7% pregnancy rate,
  • 30% spontaneous
References:


Robotic Assisted Laparoscopic Repair of Isthmocele

Presenter: Karim Nawfal, MD, FACS
Obstetrics and Gynecology, Clemenceau Medical Center - Affiliated with Johns Hopkins International Beirut, Lebanon

Video Objective: This video demonstrates the technique for a Robotic assisted laparoscopic repair of a large Isthmocele.

Setting: A 41-year-old G1P1 woman presented with secondary infertility and postmenstrual spotting. Her first spontaneous pregnancy ended by cesarean section delivery 5 years ago. She has a 3 years history of secondary infertility and failed Intracytoplasmic sperm injection (ICSI). Transvaginal ultrasound showed a wedge-shaped hypoechoic area in the myometrium at the level of the previous cesarean scar and Pelvic MRI confirmed the diagnosis of Isthmocele.

Interventions: Diagnostic hysteroscopy done prior to the Robotic assisted Laparoscopy for endometrial cavity assessment and localization of the cesarean scar defect showed an endometrium studded with black hemosiderin-like lesions, biopsy was taken. Then a Robotic assisted Laparoscopic surgery started with dissection of the vesicovaginal plane and resection of the isthmocele pouch. Complete excision of fibrotic tissues performed and a Hegar dilator was placed to maintain cervico-uterine patency. The defect was then repaired in 3 layers. For the first two layers 0-polyglactin (Vicryl®) was used for faster absorption of the suture material in contact with the endometrial cavity. The third layer was closed using 2-0 delayed absorbable barbed sutures (V-LocTM ). An adhesion barrier was placed overlying the suture line. The operative time was 150 minutes and the patient had an uneventful postoperative recovery.

Conclusion: The pathology of the endometrial biopsy showed the unusual finding of endometrial glands filled with blood. The postoperative vaginal ultrasound confirmed a well re-approximated uterine wall, a myometrial thickness of 14 mm and a continuous and intact endometrial lining at 6 weeks postoperatively. At 3 months a flexible office hysteroscopy showed excellent repair, complete healing of the lower uterine defect and a normal endometrial cavity with resolution of the abnormal lesions. Post-operatively, the patient denied any post-menstrual spotting and conceived spontaneously 4 months after the repair.
OBJECTIONS

- Evaluate the rate of intrauterine adhesions (IUA) after dilatation and curettage (D&C) for miscarriage, with and without hyaluronic acid gel (HAG).

BACKGROUND

**Objective**
To evaluate the rate of IUA after D&C for miscarriage, with and without hyaluronic acid gel.

**Primary outcome**
Rate of IUA during diagnostic hysteroscopy, M2 (6 to 8 weeks)

**Secondary outcomes**
Severity of IUA
Pregnancy rates (surveys at 6, 12, 24 months)

**Inclusion criteria**
- Woman > 18 years
- Miscarriage from 7 to 14 weeks

**Exclusion criteria**
- Septic abortion
- Molar pregnancy
- Pregnancy of unknown localization

**Participating centers**
- Cochin, Bicêtre, K-Bicêtre, Lariboisière, Trousseau, Jean Verdier, St Denis, Sevres

**Design**
- 8 participating centers
- 2 years (2014-2016)

**Disclosure**
I have no financial relationships to disclose

**Table**

<table>
<thead>
<tr>
<th>First author, year</th>
<th>Intrauterine Adhesions</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gobin, 1992</td>
<td>10/60</td>
<td>(16.6%)</td>
</tr>
<tr>
<td>Friedler, 1993</td>
<td>28/147</td>
<td>(19%)</td>
</tr>
<tr>
<td>Romér, 1994</td>
<td>16/53</td>
<td>(30.2%)</td>
</tr>
<tr>
<td>Romér, 1996</td>
<td>20/80</td>
<td>(25%)</td>
</tr>
<tr>
<td>Yasar, 2004</td>
<td>13/58</td>
<td>(22.4%)</td>
</tr>
<tr>
<td>Salzani, 2007</td>
<td>41/109</td>
<td>(37.6%)</td>
</tr>
<tr>
<td>Kuzel, 2011</td>
<td>7/100</td>
<td>(7%)</td>
</tr>
<tr>
<td>Cagendorz, 2011</td>
<td>14/151</td>
<td>(9.3%)</td>
</tr>
<tr>
<td>Hooller, 2017</td>
<td>22/72</td>
<td>(30.5%)</td>
</tr>
<tr>
<td>Li, 2019</td>
<td>33/137</td>
<td>(24.1%)</td>
</tr>
</tbody>
</table>

**TOTAL**
204/967 (21.1%)
### Discussion

**Hooker, 2017**
- Control group
- Gel group
  - Autocross Linked Hyaluronic Acid Gel
  - Hysteroscopy
    - 8-12 weeks
    - N of patients: 72
      - IUA rate: 22 (30.6%)
      - Severe IUA: 21/22 (95.4%)
  - 13/134 (9.7%)

**Li, 2019**
- Control group
- Gel group
  - New Cross Linked Hyaluronic Acid Gel
  - Hysteroscopy
    - 3 months
    - N of patients: 137
      - IUA rate: 33 (24.1%)
      - Severe IUA: 18/33 (49.5%)

### Conclusion

- Systematic instillation of HA gel?
- Fertility?
- Follow-up diagnostic hysteroscopy?
- 3 positive RCT
Acknowledgments

HYFACO group

- J.Sroussi, MD, Hôpital Lariboisière, Paris, FRANCE
- A.Bourret, MD, Hôpital Cochin, Paris, FRANCE
- M.Lesavre, MD, Hôpital Franco-Britannique, Levallois-Perret, FRANCE
- A-G Pourcelot, MD, Hôpital Kremlin-Bicêtre, FRANCE
- T.Thubert, MD, Hôpital Béclère, Clamart, FRANCE
- A.Rousseau, MD, URC-EST, Paris, FRANCE
- S.Tuffet, statistician, URC-EST, Paris, FRANCE
- G.Legendre, MD, PhD, Hôpital Angers, Angers, FRANCE
- J-L Benifla, MD, PhD, Hôpital Lariboisière, Paris, FRANCE

References

Laparoscopic Relocation of the Ovaries after Prior Transposition

Presenter: Jessica Traylor, MD
Department of Obstetrics and Gynecology, Division of Minimally Invasive Gynecologic Surgery,
Northwestern University Feinberg School of Medicine
Chicago, IL

Video Objective: To describe the indications, surgical approaches and expected outcomes for ovarian transposition and highlight a case of ovarian relocation to the pelvis in a patient who underwent prior transposition.

Setting: A 34 year old patient with a history of metastatic spinal ependymoma underwent laparoscopic ovarian transposition prior to craniospinal radiation. Eleven years after her transposition, she was seen by reproductive endocrinology and infertility for preconception counseling and evaluation. Her follicle stimulating hormone levels were within normal limits, but her hysterosalpingogram demonstrated bilateral tubal isthmic occlusion. She was referred to minimally invasive gynecologic surgery for surgical consultation.

Interventions: The patient was taken to the operating room for operative laparoscopy, ovarian relocation to the pelvis and evaluation of her fallopian tubes. Intraoperative findings were notable for transposition of the bilateral ovaries and fallopian tubes to the lateral abdominal peritoneum. Adhesiolysis was performed to mobilize each ovary on its vascular pedicle. Without compromise to the ovarian blood supply, and in a tension-free manner, each ovary was sutured to the ipsilateral round ligament.

Conclusion: Laparoscopic ovarian transposition is an important surgical technique to aid preservation of ovarian function in reproductive aged women undergoing pelvic radiation. Gynecologic surgeons should be aware of the techniques to perform ovarian transposition, as well as relocation of the ovaries to the pelvis for future spontaneous or assisted reproduction. Knowledge of abdominal and pelvic anatomy, as well as proficiency in laparoscopic suturing are essential to perform ovarian transposition and relocation in a minimally invasive fashion.
Laparoscopic Repair of Isthmocele with Hysteroscopic Guidance
Presenter: Catherine Z. Wu, MD
Minimally Invasive Gynecologic Surgery, George Washington University Hospital
Washington DC, DC

Video Objective: The objective of this video is to review the definition, diagnosis, consequences of an uterine isthmocele. This video also demonstrates surgical management of isthmoceles using a combination of laparoscopy and hysteroscopy.

Setting: A patient with a history of 2 prior cesarean deliveries with strong desire for future fertility was found to have a profound isthmocele on transvaginal ultrasound. She presented for surgical management at our large academic center with a robust minimally invasive gynecological surgical team.

Interventions: The patient underwent an uncomplicated laparoscopic isthmocele repair. Hysteroscopy was performed concurrently as a means of visualizing the borders of the uterine defect as well as determining adequate margins for full removal. 6 months after repair, the patient underwent a repeat ultrasound that showed an intact repair with normal myometrial thickness.

Conclusion: Isthmocele is an iatrogenic defect in the uterine myometrium and can complicate future pregnancies. Laparoscopic repair with hysteroscopic guidance is a safe and effective way of addressing an isthmocele for patients that desire future pregnancies.
Utero-Vaginal Reanastomosis for Cervical Agenesis

Presenter: Catherine Z. Wu, MD
Minimally Invasive Gynecologic Surgery, George Washington University Hospital
Washington DC, DC

Video Objective: The objective of this video is to review the types of cervical agenesis and dysgenesis, methods of diagnosis, and the surgical technique used to correct this type of mullerian anomaly.

Setting: A young adult with history of primary amenorrhea, pelvic pain found to have endometriosis and cervical agenesis presents for surgical correction of her cervical agenesis at a large academic center with a robust minimally invasive gynecologic surgical group.

Interventions: The patient with cervical agenesis underwent a laparoscopic utero-vaginal reanastomosis. A stent was left in situ for maturation of the new cervical fistulous tract between the uterus and the vagina.

Conclusion: Patients with cervical malformations, such as cervical agenesis or dysgenesis, that want to establish and maintain cyclical menses and/or to preserve fertility can be offered an utero-vaginal reanastomosis. This surgery can be safely and efficaciously performed with laparoscopy. Though the first reanastomosis procedures performed resulted in high morbidity and mortality, recent surgical outcomes have been more promising with subsequent successful pregnancies and continued patency of the created outflow tract.
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](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](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](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](http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2078538).