Panel Session 7: Fertility Issues Affecting Cancer Patients, Including Oncofertility

PROGRAM CHAIR
Linus T. Chuang, MD

Cecelia H. Boardman, MD
Kutlak H. Oktay, MD, PhD
Professional Education Information

Target Audience
This educational activity is developed to meet the needs of residents, fellows and new minimally invasive specialists 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.
# Table of Contents

Course Description........................................................................................................................................ 1

Disclosure...................................................................................................................................................... 2

Welcome, Introductions and Course Overview  
L.T. Chuang.................................................................................................................................................... 3

Fertility-Sparing Options in the Management of Gynecologic Malignancies  
C.H. Boardman .............................................................................................................................................. 4

Current State of Fertility Preservation for Medical Indications  
K.H. Oktay .................................................................................................................................................... 5

Cultural and Linguistics Competency ........................................................................................................ 8
Panel Session 7: Fertility Issues Affecting Cancer Patients, Including Oncofertility

Linus T. Chuang, Chair
Faculty: Cecelia H. Boardman, Kutlak H. Oktay

This session features two renowned experts in gynecologic oncology and infertility to address fertility-sparing options in reproductive age women facing a cancer diagnosis. This panel will explore the indications, surgical options and techniques including radical trachelectomy for early cervical cancer to uterine transplant and will also review the state of the art fertility preservation options for medical indications. Ample of time will be reserved for discussions and questions.

Learning Objectives: At the conclusion of this course, the clinician will be able to: 1) Identify advances in emerging fertility-sparing options and techniques; and 2) recognize options of fertility preservation for medical indications.

Course Outline

2:15 Welcome, Introductions and Course Overview
   L.T. Chuang

2:20 Fertility-Sparing Options in the Management of Gynecologic Malignancies
   C.H. Boardman

2:40 Current State of Fertility Preservation for Medical Indications
   K.H. Oktay

3:00 Panel Discussion
   All Faculty

3:15 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).
Art Arellano, Professional Education Manager, AAGL*
R. Edward Betcher*
Amber Bradshaw
Speakers Bureau: Myriad Genetics Lab
Other: Proctor: Intuitive Surgical
Linus T. Chuang*
Sarah L. Cohen
Consultant: Olympus
Erica Dun*
Joseph (Jay) L. Hudgens
Contracted Research: Gynesonics
Frank D. Loffer, Medical Director, AAGL*
Suketu Mansuria
Speakers Bureau: Covidien
Linda Michels, Executive Director, AAGL*
Karen C. Wang*
Johnny Yi*

SCIENTIFIC PROGRAM COMMITTEE
Sawsan As-Sanie
Consultant: Myriad Genetics Lab
Jubilee Brown*
Aarathi Cholkeri-Singh
Consultant: Smith & Nephew Endoscopy
Speakers Bureau: Bayer Healthcare Corp., DySIS Medical, Hologic
Other: Advisory Board: Bayer Healthcare Corp., Hologic
Jon I. Einarsson*
Suketu Mansuria
Speakers Bureau: Covidien
Andrew I. Sokol*
Kevin J.E. Stepp
Consultant: CONMED Corporation, Teleflex
Stock Ownership: Titan Medical
Karen C. Wang*

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).
Cecilia H. Boardman
Speakers Bureau: Genentech
Linus T. Chuang*
Kutluk H. Oktay*
Content Reviewer has no relationships.

Asterisk (*) denotes no financial relationships to disclose.
**FERTILITY ISSUES AFFECTING CANCER PATIENTS, INCLUDING ONCOFERTILITY**

Linus Chuang MD
Professor and Director
Division of Gynecologic Minimally Invasive Surgery
Division of Gynecologic Oncology
Department of Obstetrics, Gynecology and Reproductive Science
Icahn School of Medicine at Mount Sinai
New York NY USA

**OBJECTIVES**

- Identify advances in emerging fertility sparing options and techniques
- Recognize options of fertility preservation for medical indications

**DISCLOSURES**

- I have no financial relationships to disclose.

**SIGNIFICANCE OF ONFERTILITY**

- Median age at first delivery is rising with 20% of first pregnancy >40 years old
- Worldwide incidence of cancer in women: 6.7 million
- 10% or 670,000 women are <40 years old
- Cancer death rates decreasing in young women by 1.4% per year
- Early diagnosis
- Prognosis is not affected by pregnancy
- 16% of malignancies or 1.09 million per year affecting women are gynecologic cancers
- Cancer diagnosed in reproductive age
- Cervical cancer 1/3
- Endometrial and ovarian cancers, 10%
- Treatment consists of radical surgery, radiation, and chemotherapy
- Infertility and non-compliance are common oncofertility consequences
- Fertility sparing options should be carefully considered and counseled with women

**REFERENCES**

- Finer LB Trends in ages at key reproductive transitions in the United States, 1951-2010 Womens Health Issues 2014
- Ferlay J Cancer incidence and mortality worldwide: sources, methods and major patterns in Globocan 2012
- Woodruff: a grand collaboration between reproductive medicine and oncology. Reproduction 2015
Fertility-Sparing Options in the Management of Gynecologic Malignancies

CECELIA H. BOARDMAN, MD, FACS, FACOG
DIRECTOR, GYNECOLOGIC ONCOLOGY
HENRICO DOCTORS HOSPITAL, HCA VIRGINIA

Disclosures

- Speakers Bureau: Genentech

Objectives

- Identify women who are appropriate candidates for medical management of endometrial cancer for fertility preservation.
- Recognize the role of conization and radical trachelectomy in the conservative management of early cervical cancer.
- Summarize when fertility sparing surgery is appropriate in newly diagnosed ovarian cancer.

Endometrial Cancer and Fertility Preservation

- Clinical Staging
- MRI to assess invasion
- Oral progestational agents (megestrol acetate) or progesterone containing IUD
- Serial endometrial sampling

Cervical Cancer and Ovarian Cancer

- Early Stage Ia1 and Ia2 cervical cancers may be managed with conization only if margins are negative.
- Small Stage Ib1 cervical cancers (<=2cm) can be managed with radical trachelectomy.
- MRI to assess endometrial extension
- Abdominal cerclage
- Cesarean section for delivery in subsequent pregnancies
- Ovarian cancer staging can be tailored to operative findings with preservation of the uterus and contralateral ovary.

References
Objectives

- Discuss the overall approach to fertility preservation
- Review current outcomes and techniques with ovarian transplantation

Ovarian Transplantation Techniques

Orthotopic (Pelvic) Transplant
Resumption of Ovarian Functions
Spontaneous Conception

Heterotopic (Extra-Pelvic) Transplant
IVF
Embryo Transfer

Disclosures

- I have no financial relationships to disclose.
Orthotopic Transplant Techniques

Ovarian Function & Pregnancy via IVF


Heterotopic Ovarian Transplant Techniques

Patient A

Patient B

Abby et al. SAGE. 2004.12-13

Patient C

Patient D

Robot-Assisted Ovarian Transplant (96 second video)

Frozen-Thawed Ovarian Tissue Transplant Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Age at Cryopreservation (range)</th>
<th>Age at Transplantation (range)</th>
<th>Maternal Age at Delivery</th>
<th>Gestational Age at Delivery†</th>
<th>Clinical Pregnancy/Woman</th>
<th>Live-Ongoing Pregnancy/Woman</th>
<th>Endocrine Function/Woman</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>29.3 ± 6.5 years (9-44)</td>
<td>32.8 ± 5.6 years (13.8-45)</td>
<td>30.4 ± 4.2 years (23-40)</td>
<td>38.2 ± 1.8 weeks (33-41)</td>
<td>69/137 (50.3%)†</td>
<td>56/156 (35.9%)</td>
<td>155/183 (84.7%)</td>
</tr>
</tbody>
</table>

Conclusions

- Numerous fertility preservation (FP) techniques have evolved for women who are faced to lose ovarian function due to medical and surgical interventions
- Ovarian cryopreservation and transplantation is the only FP technique that can restore both fertility and endocrine function and allow spontaneous conceptions

References

6

6
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.