Plenary 2 – Oncology

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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
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Plenary 2 – Oncology
Moderators: Linus Chuang, Michael Frumovitz, Chyi-Long Lee
Faculty: Bruno Borghese, Katharine M. Esselen, R.S. Guido, Janelle B. Pakish, Roberta Venturella, Huicheng Xu

This session focuses on minimal invasive procedures in gynecologic oncology, including laparoscopic and robotic lymphadenectomy in uterine and cervical cancer. We will also discuss pre-operative image evaluation of myometrium invasion in uterine cancer and the feasibility of predicting tubal cancer with a minimally invasive method.

Learning Objectives: At the conclusion of this course, the clinician will be able to: 1) Evaluate multiple minimally invasive approaches for lymphadenectomy; 2) determine the feasibility of minimally invasive screening for and prophylaxis of ovarian; and 3) assess the validity of preoperative imaging in women with uterine cancer.

Course Outline

12:05 Minimally Invasive Approach to Brush Cytology of the Fallopian Tubes: A Feasibility Study with Implications in Ovarian Cancer Screening  
R.S. Guido

12:15 Prophylactic Salpingectomy in Premenopausal Low-Risk Women for Ovarian Cancer: Primum Non Nocere  
R. Venturella

12:25 Gynecologic Oncology Hysterectomy Surveillance Statistics: Data from the 2009 Nationwide Inpatient Sample  
K.M. Esselen

12:35 Evaluation of Laparoscopic Extra-Peritoneal Para-Aortic Lymphadenectomy vs. Trans-Peritoneal Laparoscopic or Robotic Para-Aortic Lymphadenectomy for Endometrial Cancer Staging  
J.B. Pakish

12:45 Robotic-assisted and Laparoscopic Radical Hysterectomy with Pelvic Lymph Node Dissection in the Treatment of Early Stage Cervical Cancer: A Case-Control Study  
H. Xu

12:55 Factors Associated with Imaging-Histologic Discordance in 102 Patients with Endometrial Cancer  
B. Borghese

1:05 Closing Remarks/Adjourn
PLANNER DISCLOSURE
The following members of AAGL have been involved in the educational planning of this workshop and have no conflict of interest to disclose (in alphabetical order by last name).
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Linus T. Chuang*
Katharine M. Esselen*
Michael Frumovitz
Consultant: Applied Medical, Covidien, Ethicon Endo-Surgery
Richard S. Guido
Training Consultant: Halt Medical
Chyi-Long Lee*
Janelle B. Packish*
Roberta Venturella*
Huicheng Xu*

Asterisk (*) denotes no financial relationships to disclose.
Minimally invasive approach to brush cytology of the fallopian tubes: a feasibility study with implications in ovarian cancer screening

Richard Guido MD

November 12, 2013

Background

- Ovarian cancer is the leading cause of death from gynecologic cancer
- Majority diagnosed at an advanced stage
- Recent data: some ovarian cancers may originate in the fallopian tube
- BRCA carriers: higher rate of fallopian tube epithelial dysplasia and carcinomas

Objective

- To determine whether fallopian tube epithelial cells can be obtained via a minimally invasive approach using brush cytology that are adequate for cytopathologic evaluation.

Disclosures

Other: Training Consultant: Halt Medical

Method

- Prospective feasibility study of 10 patients
- Attempted hysteroscopic and laparoscopic brush cytologic sampling of the fallopian tubes at the time of laparoscopic hysterectomy with or without adnexal surgery for benign indications
- ThinPrep slides and cell blocks prepared
- P53 and Ki-67 immunostains performed if adequate cellularity
Study subjects

- **Inclusion criteria:**
  - Age 18-80 years
  - TLH or LSH, +/- adnexal surgery for benign indications

- **Exclusion criteria:**
  - History of prior tubal pathology or surgery
  - History of endometrial ablation
  - Uterus greater than 12cm
  - Current or history of gynecologic malignancy
  - BRCA1 or BRCA2 mutation
  - Pregnancy

Results

- Ten patients recruited
- First 5 patients: hysteroscopic sampling only
  - Only one had successful hysteroscopic sampling
- Institutional Review Board (IRB) protocol modified
- 5 remaining patients: hysteroscopic and laparoscopic sampling
  - All 5 had successful laparoscopic sampling
  - One also had successful hysteroscopic sampling

Cytology results
Limitations and future directions

- Acceptable screening test?
- Premature translation of research findings into routine clinical practice
- Future research:
  - Develop a method to reach the fimbriated end hysteroscopically for cytology collection
  - Perform brush cytology on patients with BRCA mutations and ovarian cancer to correlate cytology

Conclusion

- This is the first study to describe endoscopic brush cytology of the fallopian tubes with correlated cytologic narrative.
- Hysteroscopic brush cytology of the fimbriated end of the fallopian tube is not feasible with the endoscopic brushes currently available.
- Laparoscopic brush cytology of the fallopian tube is safe, feasible, and has correlated cytology.
- Brush cytology of the fallopian tube may have implications for an ovarian cancer screening test.

References

1. Have briefly reviewed the new dualistic model of carcinogenesis for OCs;
2. Be aware that the fallopian tube appears to be the source of most of EOCs;
3. Be aware that prophylactic salpingectomy does not impair surgical outcomes and it does not affect ovarian reserve of operated patients.

Recent studies have led to the development of a new paradigm for the pathogenesis and origin of EOC, based on a dualistic model of carcinogenesis that divides EOC into 2 broad categories designated types I and II.

Both type I and type II tumors develop from extratubal ovarian tissue that implants on the ovary. Both type HGSC and HGSOC, the fallopian tube appears to be the source of the tumors.

Reduction in the future risk of ovarian cancer is the single most common reason for normal ovaries to be removed at the time of hysterectomy, particularly in the post-menopausal women. Parker WH, et al. Curr Opin Obstet Gynecol 2007

In women not at increased risk of ovarian cancer the disadvantages of prophylactic oophorectomy outweigh the advantages up to the age of 65 years. Parker WH, et al. Curr Opin Obstet Gynecol 2007

Over all, women with oophorectomy before 55 had about 8.5% excess mortality compared with ovarian conservation. Women with oophorectomy before 59 had 4% excess mortality. Norman J., et al. Cancer 2007

Nevertheless, the effects of salpingectomy on ovarian functions are still controversial. To the best of our knowledge, there are no strong evidences on the effect of salpingectomy on surgical outcomes of a standard hysterectomy.

Does salpingectomy affect ovarian reserve?

It has been hypothesized that the destruction of the fallopian tube reduces the utero-ovarian arterial blood flow in the mesosalpinx, thereby leading to tissue damage to the ovary. In addition, venous drainage may be compromised because venous plexuses are located near the arteries. Cattanach JF, Milne BJ. Contraception 1988

...but...

The pathogenesis of ovarian cancer: what’s new?

The mounting evidence that ovarian cancer does not develop in the ovary and the lack of success of ovarian cancer screening provide a strong argument for directing efforts at prevention. Chan K, et al. Obstet Gynecol 2012

For women who are not considered to be at high risk but who undergo a hysterectomy for benign uterine disease, to date many gynecologists have argued that bilateral salpingo-oophorectomy should be carried out to reduce the risk of developing ovarian cancer.

New issue on ovarian cancer origin: what to do?

Risk-reducing salpingectomy during surgery for benign indications

In the general population, prophylactic salpingectomy might reduce the risk of sporadic ovarian cancer reduing at the same time the risk of premature death seen in women subject to salpingo-oophorectomy before the onset of natural menopause.

Does salpingectomy affect ovarian reserve?
Prophylactic Salpingectomy In Premenopausal Low-risk Women For Ovarian Cancer: Primum Non Nocere

Group A
79 patients submitted to TLH plus prophylactic salpingectomy (2010-2013).

Group B
79 women treated by standard TLH without adnexectomy, matched for uterine weight.

The goal of the study was to evaluate if ovarian function and surgical outcomes are modified by the addition of bilateral salpingectomy to the standard technique.

Clinical Outcomes

<table>
<thead>
<tr>
<th>Parameters</th>
<th>TLH plus salpingectomy</th>
<th>Standard TLH</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Δ AMH (ng/ml)</td>
<td>-0.06 ± 0.1</td>
<td>-0.08 ± 0.1</td>
<td>0.31</td>
</tr>
<tr>
<td>Δ FSH (mIU/ml)</td>
<td>1.3 ± 1.1</td>
<td>1.0 ± 0.8</td>
<td>0.11</td>
</tr>
<tr>
<td>Δ AFC (x)</td>
<td>-0.27 ± 0.6</td>
<td>-0.14 ± 0.3</td>
<td>0.09</td>
</tr>
<tr>
<td>Δ Mean ovarian diameters (mm)</td>
<td>-0.25 ± 0.8</td>
<td>-0.19 ± 0.6</td>
<td>0.57</td>
</tr>
<tr>
<td>Δ PSV (mm/s)</td>
<td>-0.31 ± 1.9</td>
<td>-0.19 ± 1.0</td>
<td>0.64</td>
</tr>
</tbody>
</table>

All data are expressed as mean and SD.

In this study we demonstrate that ovarian function and surgical outcomes in patients submitted to TLH for benign uterine pathologies are NOT modified by the addition of bilateral salpingectomy to the standard technique.

Prophylactic Salpingectomy In Premenopausal Low-risk Women For Ovarian Cancer: Primum Non Nocere

Materials and Methods

Clinical outcomes

For each patient in both groups, according to our standard protocol, one month before laparoscopy, on days 1 to 4 of menstrual cycles, serum AMH, FSH and E2 were evaluated and a transvaginal ultrasound examination to assess AFC, mean ovarian diameter and PSV was carried out by the same experienced ultrasonographists.

After TLH, ovarian reserve was re-evaluated when early follicular phase is confirmed by the presence of serum FSH <60 pg/ml and P <1 ng/ml, in conjunction with ultrasonographic absence of a dominant follicle >10 mm.

Ovarian reserve modification is defined as the Δ between post-operative and pre-operative values of AMH, FSH, AFC, mean ovarian diameters and PSV.

Surgical outcomes

For each surgical procedure operative time, variation of Hb level (ΔHb), postoperative hospital stay, postoperative return to normal activity, complication rate were recorded as secondary outcomes.

Secondary outcomes measures.

- Operative time (min): 81.7 ± 14.8 vs. 83.3 ± 16.4
- Δ Hb (g/l): 1.1 ± 0.9 vs. 1.2 ± 0.7
- Postoperative hospital stay (days): 2.5 ± 0.8 vs. 2.7 ± 0.8
- Postoperative return to normal activity (days): 15.0 ± 4.4 vs. 15.9 ± 4.8
- Complications rate (i): 0 vs. 0

All data are expressed as mean and SD.

Following the OvCaRe example of the British Columbia Cancer Agency (BCCA), and considering our preliminary experience, we launched an educational campaign for OC prevention.

We aimed to galvanize a region of southern Italy (Calabria, Basilicata & Campania) to consider removing FT at the time of any surgery performed for benign disease (e.g., hysterectomy, but also abdominal surgery such as cholecystectomy) for women who have accomplished their reproductive desire and for all requests for permanent contraception (e.g., tubal sterilization).

We are also promoting the SEE-FIM protocol for FT screening and precursor lesions detection by organizing specific courses led by an expert pathologist who properly train all the involved pathologists.

In our study, given a sample size of 79 patients in each group, power model resulted of 96.8%.
Creation of a new algorithm to predict ovarian age: combined evaluation of clinical, biochemical and 3D-ultrasonographic parameters. To collect data of clinical (age), biochemical (FSH, AMH, E2) and 3D-ultrasonographic parameters (AFC, VI, VFI, OV) of a population of fertile women aged 18-55 in order to design a new algorithm able to predict ovarian reserve in terms of both reproductive prognosis and distance to menopause.

Prospective confirmation of PBS safety

PBS and LPS myomectomy
PBS and LPS cholecystectomy
LPS salpingectomy for tubal sterilization

Work in progress...

Assessment of the program effectiveness in changing surgical practice and OC incidence and subtypes distribution

We will review all OC cases occurring within each year over a 30-year period (up to 2025), starting at 1995 and continuing through 15 years past our initial recommendations (2010).

To incentivate and to better track PBS → specific code (DRG)

We are working with regional and national competent offices to develop a unique code for salpingectomy performed for OC risk reduction.

Translational support

To address specific genomic and transcriptomic risk patterns, different by BRCA mutation, in patients with HGSC

To validate already promising serum biomarkers and to try to address a reliable cytological method to screen p53 positivity on tubal cells (both obtained by cervicovaginal thin prep and by hysteroscopic collection)

Prophylactic Salpingectomy In Premenopausal Low-risk Women For Ovarian Cancer: Primum Non Nocere

Roberta Venturella, MD

References

Study Objective

- To comprehensively examine the mode of hysterectomy in the United States stratified by endometrial, cervical and ovarian cancer diagnoses.

Background

- Hysterectomy is one of the most common procedures performed by gynecologic oncologists.
- Over last 2 decades, gynecologic oncologists have increasingly used laparoscopic approaches to hysterectomy.
- Laparoscopy has been shown to be an equally feasible, effective and safe approach to the management of gynecologic malignancies.
- In 2009, a survey reported that 91% of gynecologic oncologists used laparoscopic surgery in their practice.
- The most common procedure reported was a hysterectomy and staging for uterine cancer in 43% of respondents.

Materials and Methods

- Nationwide Inpatient Sample (NIS)
  - Largest national all-payer database of inpatient care
  - >1,000 hospitals, >8 million hospital stays
  - Part of the healthcare cost and utilization project (HCUP) and sponsored by the Agency for Healthcare Research & Quality (AHRQ)
  - 20% stratified random sample of discharges from all hospitals in the United States
  - Represents 90% of all hospitals
  - Weighting procedures can be applied to extrapolate data to national estimates

- 2009 NIS used to abstract information about patients who underwent a hysterectomy procedure (using ICD-9 codes) during their hospitalization
- Clinical classification software (CCS) and ICD-9 codes employed to identify those patients who underwent hysterectomy with a gynecologic malignancy diagnosis.
- Patients were then categorized as endometrial, cervical and ovarian cancer.
- Dual cancer diagnoses or “other gynecologic cancer” were excluded.
- Comparisons were made of demographic and clinical factors by cancer diagnosis amongst the main modes of hysterectomy (abdominal, laparoscopic, vaginal) using the Chi-square test for categorical variables and the ANOVA for continuous variables, along with multivariate regression models.

Disclosures

- I have no financial relationships to disclose.
64,410 total hysterectomies for a gyn malignancy in 2009

Results: Total Hysterectomies

- Endometrial: 34,868 (54%)
- Cervical: 2,250 (4%)
- Ovarian: 14,791 (23%)
- Other: 12,501 (19%)

Results: Mode of Hysterectomy

- Endometrial: 34,868
  - Lsc: 26%
  - Vag: 2%
  - Abd: 72%

- Cervical: 14,791
  - Lsc: 23%
  - Vag: 21%
  - Abd: 56%
  - Other: 1%

- Ovarian: 12,501
  - Lsc: 4%
  - Vag: 3%
  - Abd: 93%

Results: Multivariate Regression

Demographic Info
- Age
- Race/Ethnicity
- Insurance

Hospital Factors
- Urban/Rural
- Teaching Status
- Size
- Region of country

Patient Factors
- Surgical indications
  - Cancer diagnosis
  - Fibroids
  - Endometriosis
  - Prolapse
  - Menstrual disorder
- Severity of co-morbidities
- Obesity

Statistically significant differences were found across all 3 cancer diagnosis (p<0.0001)

- Moderate loss of function
  - Endometrial: OR 0.47 (0.41, 0.55)
  - Cervical: OR 0.62 (0.51, 0.76)
  - Ovarian: OR 0.38 (0.26, 0.55)

- Major to extreme loss of function
  - Endometrial: OR 0.23 (0.18, 0.30)
  - Cervical: OR 0.21 (0.11, 0.38)
  - Ovarian: OR 0.10 (0.05, 0.21)
## Results: Multivariate Regression

### Obesity

Statistically significant differences were found in the AHRQ co-morbidity measure for obesity in endometrial cancer only ($p=0.01$)

- AHRQ co-morbidity measure for obesity includes only patients coded with an ICD9 code for obesity
- Odds Ratio: 1.27 (1.05, 1.53)
- Therefore, if obese, a patient has a 1.27 increased odds of a minimally invasive mode of hysterectomy (laparoscopic or vaginal)

## Discussion

- Why are black and other minority races less likely to undergo a minimally invasive hysterectomy?
  - Can it be explained by the regional differences in practice, location/type of hospital or patient factors?
  - Multivariate regression controlled for region of the country, hospital location (urban/rural), teaching status and clinical factors (fibroids, severity of illness and obesity) and showed no significant differences in mode of hysterectomy and these variables
  - Is there other data to support this issue of racial disparities in mode of hysterectomy?

## Discussion:

### Mode of Hysterectomy in Benign disease

- Jacoby et al. (*Obstet Gynecol* 2009) reported on > 500,000 benign hysterectomies using the 2005 National Inpatient Sample (NIS)
  - African-American, Latina, and Asian women had 40–50% lower odds of laparoscopic compared to abdominal hysterectomy ($p<0.001$)
- Wright et al. (*JAMA* 2013) reported on mode of hysterectomy (lsc vs robotic) for benign disease using the Premier Database 2007–2010
  - Race and insurance status were associated with lower odds of having robotic surgery over traditional laparoscopy

## Discussion:

### Mode of Hysterectomy in Gyn cancers

  - Larger hospital size increased odds of minimally invasive hysterectomy over abdominal approach
  - Increasing medical comorbidities led to lower odds of minimally invasive hysterectomy
  - Found that women treated at larger hospitals, non-teaching hospitals and outside the northeast were more likely to have robotic versus lsc hysterectomy
  - Black women, those without insurance and rural location less likely to have a robotic hysterectomy

## Conclusions

- The majority of hysterectomies for gynecologic malignancies in the United States in 2009 were performed by traditional abdominal approach.
- Increasing severity of illness is associated with a ~20–50% lower odds of a minimally invasive hysterectomy.
- Obese patients with endometrial cancer had 1.27 increased odds of undergoing a minimally invasive hysterectomy compared to non-obese patients.
- Racial disparities exist in mode of hysterectomy in endometrial and cervical cancer and must be further investigated to better understand the contributing factors so that they may be eradicated.

## Acknowledgements

- Sarah Cohen, MD MPH
- Jon Einarsson, MD
- Allison Vitonis
- Michael Muto, MD
A Comparison of Trans-peritoneal vs. Extra-peritoneal Para-aortic Lymphadenectomy for Staging of Patients with Endometrial Carcinoma

Janelle Pakish, MD
Dartmouth-Hitchcock Medical Center

Disclosures
I have no financial relationships to disclose.

Objectives
- Evaluate surgical outcomes of extraperitoneal laparoscopic para-aortic lymphadenectomy and transperitoneal laparoscopic and robotic lymphadenectomy in endometrial cancer staging

Background
- Role of PA lymphadenectomy in endometrial cancer highly debated
- In cervical cancer, EP PA LND has been shown to be a safe and feasible approach
- Low intra-operative and post-operative complications rates

Materials and Methods
- Retrospective chart review
- MD Anderson Cancer Center
- Attempted or completed EP or TP PA LND – 1/1/07 – 11/30/12
- Exclusion criteria
  - Incomplete records, LND for recurrent disease, laparotomy with no attempt at laparoscopy

<table>
<thead>
<tr>
<th></th>
<th>EP LND</th>
<th>Laparotomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Nodes</td>
<td>16.5</td>
<td>19.6</td>
</tr>
<tr>
<td>BMI &lt;35</td>
<td>13.1</td>
<td>20.5</td>
</tr>
<tr>
<td>BMI ≥35</td>
<td>21.6</td>
<td>17.8</td>
</tr>
</tbody>
</table>

Conclusion: EP PA LND reliable, even in obese patients

RT2 Usually before this slide you have a Background slide
Ramirez, Pedro Tomas, 8/15/2013
Endometrial cancer staging (N=194)

- RATLH (N=86)
- TLH and TP LNDs (N=108) “Transperitoneal Laparoscopic Group”
- EP PA LND (N=34) “Extraperitoneal Group”
- TP PA LND (N=52) “Transperitoneal Robotic Group”

**Results**

<table>
<thead>
<tr>
<th></th>
<th>Extraperitoneal Group (N=34)</th>
<th>Transperitoneal Laparoscopic Group (N=108)</th>
<th>Transperitoneal Robotic Group (N=52)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Para-aortic lymph nodes, total</td>
<td>10</td>
<td>9</td>
<td>6.5</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Range</td>
<td>3-22</td>
<td>1-28</td>
<td>1-15</td>
<td>0.07</td>
</tr>
<tr>
<td>Pelvic lymph nodes, total</td>
<td>16</td>
<td>13</td>
<td>13.5</td>
<td>0.02</td>
</tr>
<tr>
<td>Range</td>
<td>0-20</td>
<td>0-31</td>
<td>1-36</td>
<td></td>
</tr>
<tr>
<td>Body Mass Index, kg/m²</td>
<td>35.1</td>
<td>26.4</td>
<td>35.2</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>20.6-47.4</td>
<td>17.8-50.8</td>
<td>18.1-51.2</td>
<td></td>
</tr>
</tbody>
</table>

**Lymph Nodes and BMI**

- Para-aortic lymph nodes, total:
  - Extraperitoneal Group: <35
  - Transperitoneal Laparoscopic Group: 35
  - Transperitoneal Robotic Group: 35

**Operative Characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Extraperitoneal Group (N=34)</th>
<th>Transperitoneal Laparoscopic Group (N=108)</th>
<th>Transperitoneal Robotic Group (N=52)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operative time, minutes</td>
<td>339.5</td>
<td>286</td>
<td>297.5</td>
<td>0.01</td>
</tr>
<tr>
<td>Range</td>
<td>242-453</td>
<td>101-480</td>
<td>182-633</td>
<td></td>
</tr>
</tbody>
</table>

**Conversion Rates**

- **Extraperitoneal Group**
  - 8.8% (n=3) conversion to TP laparoscopic PA LND
  - 8.8% (n=3) conversion to laparotomy

- **Transperitoneal Laparoscopic Group**
  - 15.7% (n=17) conversion to laparotomy

- **Transperitoneal Robotic Group**
  - 3.8% (n=2) conversion to laparotomy
Conclusions

- EP PA lymphadenectomy is a safe and feasible approach for endometrial cancer staging.
- EP para-aortic lymphadenectomy results in a higher total number of harvested PA nodes.
- EP PA lymphadenectomy results in longer operating time than standard laparoscopy or robotic-assisted laparoscopy.
- EP PA lymphadenectomy should be considered when performing endometrial cancer staging, particularly in obese patients.

Acknowledgements

- Pamela Soliman, MD
- Kathleen Schmeler, MD
- Michael Frumovitz, MD
- Ricardo dos Reis, MD
- Mark Munsell, MS
- Pedro Ramirez, MD

References

Robotic-assisted and laparoscopic radical hysterectomy with pelvic lymph node dissection in the treatment of early stage cervical cancer: A case-control study.

Huisheng Xu
Department of Obstetrics and Gynecology, Southwest Hospital, Third Military Medical University, Chongqing 400038, P. R. China

Disclosure
I have no financial relationships to disclose.

Objective
To compare the surgical outcome of robotic-assisted with laparoscopic radical hysterectomy and pelvic lymph node dissection (pelvic lymphadenectomy) for the treatment of early cervical cancer

Patients & Methods
- March 2010 to April 2013 in the Southwest Hospital, Third Military Medical University.
- Da Vinci robotic-assisted group (n = 43) and matching laparoscopic group (n = 41), all patients performed radical hysterectomy with pelvic lymph node dissection with early cervical cancer were retrospectively analyzed using Fisher's exact test and the chi-square test.
- Two sets of age, body mass index, number of pregnancy, previous abdominal surgery, and the size of the uterus homogeneous match. Observable data includes operative time, blood loss, number of lymph node dissection, complications, postoperative hospital stay.

Results

Table 1 Demographic information for all patients in two group

<table>
<thead>
<tr>
<th>Group</th>
<th>No</th>
<th>Age (y, x ± s)</th>
<th>Body mass index (BMI, x ± s)</th>
<th>FIGO Stage</th>
<th>Tumor diameter (cm, x ± s)</th>
<th>Histology</th>
</tr>
</thead>
<tbody>
<tr>
<td>RARH</td>
<td>43</td>
<td>43.6 ± 11.2</td>
<td>21.3 ± 7.4</td>
<td>3.1 ± 2.3</td>
<td>ACC 12</td>
<td>SCC 17</td>
</tr>
<tr>
<td>LRH</td>
<td>41</td>
<td>41.3 ± 13.5</td>
<td>19.7 ± 6.7</td>
<td>3.3 ± 2.7</td>
<td>SCC 14</td>
<td>SCC 17</td>
</tr>
</tbody>
</table>

P value: >0.05 >0.05 >0.05 17 17 17
Table 2 Operative data & complications

<table>
<thead>
<tr>
<th>Group</th>
<th>No</th>
<th>Mean operation time (min)</th>
<th>Blood loss (ml)</th>
<th>Intra-operation complications (No.)</th>
<th>Lymph nodes (n)</th>
<th>Length of Parametrial (cm)</th>
<th>Length of Vaginal (cm)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RARH</td>
<td>43</td>
<td>183.52 ± 34.47</td>
<td>182.12 ± 62.38</td>
<td>1</td>
<td>19.6±4.8</td>
<td>13±6.9</td>
<td>3.2±0.6</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>LRH</td>
<td>41</td>
<td>132.13 ± 31.42</td>
<td>167.69 ± 68.63</td>
<td>0</td>
<td>21.2±7.4</td>
<td>14±6.5</td>
<td>3.7±0.7</td>
<td>&gt;0.05</td>
</tr>
</tbody>
</table>

Follow up

- The median follow-up period was 38 (21-77) months.
- Chemotherapy and radiotherapy for high risk patients.

Surgical and oncologic outcomes

- No patients are known to have suffered any long-term morbidities including bladder dysfunction or urinary fistula following their surgery.
- No patient showed evidence of late complications related to LRP that required further management. The recurrence rate was 7.1% (2/28).
- The overall survival recurrence free disease was 92.9%.

Conclusion

- Da Vinci robot system assisted laparoscopic radical hysterectomy operation and lymph node resection treatment of early cervical cancer is feasible, the robot group and the laparoscopic group, radical hysterectomy with pelvic lymph node dissection similar short-term results.
- Robotic technology has been successfully used to early cervical cancer patients treated with laparoscopic group had similar surgical outcomes and long-term efficacy remains to be further explored.
- Where it is the optimal treatment of choice for preserving ovarian function and avoiding the long-
Factors associated with imaging-histologic discordance in 102 patients with endometrial cancer

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Endometrial cancer (EC)

- EC is the most commonly diagnosed gynecologic malignancy in industrialized countries
- Magnetic resonance (MR) imaging is essential for the preoperative staging: can accurately depict the depth of myometrial invasion and cervical extension
- Myometrial invasion is the most important morphologic prognostic factor: correlates with tumor grade, lymph node metastases, and overall survival.

Objective

To examine the possible causes of MRI misdiagnosis for the detection of myometrial invasion and cervical extension in EC

Design and patients

From Jan 2006 to Dec 2011
102 consecutive patients
MR imaging
Diffusion-weighted & dynamic contrast perfusion MR
Retrospective cohort study
University tertiary referral center
Laparoscopic or abdominal nonconservative hysterectomy with pelvic and paraaortic lymph node dissection when indicated
Final histopathological findings
2 expert pathologists

Imaging-histologic discordance: definitions

For myometrial invasion:
Discordance btw. MRI and final histopathological findings among the following parameters:
- No invasion
- Invasion < 50%
- Invasion ≥ 50%
- Infiltration of the serosa

For cervical extension:
Discordance btw. MRI and final histopathological findings among the following parameters:
- No invasion
- Invasion

Disclosure statement

I have no financial relationships to disclose
N = 102 patients with endometrial cancer

N = 39 patients

N = 17 patients

Discussion

Causes for misdiagnosis

Myometrial invasion

- Thin myometrium (elderly, large tumor compression, hematometry)
- Tumor extending along the entire endocervical canal (without stromal invasion) with or without connection with the main tumor
- Tumor isointense with the myometrium (often poorly differentiated)
- Myomas, adenomyosis

Cervical invasion

- Preoperative assessment of myometrial invasion and cervical extension is important to select patients for primary radical surgery
- MRI is the gold standard for detection of myometrial and cervical invasion
- MRI results should be taken with caution in patients with type 2 endometrial carcinomas and/or grade 3 tumors and/or myomatous uterus

References

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.