GYN Neoplasms

Presentation Outline
- Anatomy of the Female Reproductive System
- Overview of Major GYN Cancer Characteristics
- Multiple Primary and Histology Coding Rules
- FIGO IGCS, AJCC TNM 7th ed. and Summary Stage 2000
- Collaborative Stage Data Collection System (CSv02.05)
- C.S. Site Specific Factors for GYN Cancers
- NCCN/FIGO 2015 Treatment Guidelines

Cervix, Vagina, Vulva – In Situ and HPV-Related Neoplasms
- Reporting Requirements - CIN III, VAIN III, VIN III, AIN III and SIN III
- Cervix, Vagina, Vulva – Invasive Cancers (SCC, melanoma)
- Corpus Uteri – Epithelial (adenocarcinoma)
- Corpus Uteri – Mesenchymal (pure sarcoma)
- Corpus Uteri – Mixed Tumors (adenosarcoma)
- Ovary/Fallopian Tube – Epithelial and Stromal Tumors
- Ovary/Fallopian Tube – Borderline Malignancy
- Ovary/Fallopian Tube – Germ Cell Tumors
- Female Primary Peritoneal Malignancy
Overview – Cervix, Vagina, Vulva

- Incidence and Mortality
- Causes & Risk Factors
- Signs and Symptoms
- WHO Classification
- MP/H Coding Rules
- Stage - C5v02.05/FIGO/TNM/SS2000
- Site-Specific Factors – stage/prognosis/tx
- NCCN/FIGO Treatment Guidelines
**Cervix – 2014 estimates**
- U.S. New: 12,360
- FL New: 960
- S.C. New: 210
- U.S. Deaths: 4,020
- FL Deaths: 317
- S.C. Deaths: 68

**Vulva – 2014 estimates**
- U.S. New: 4,850
- FL New Cases: 338
- S.C. New: 83
- U.S. Deaths: 1,030
- FL Deaths: 71
- S.C. Deaths: 17

**Vagina – 2014 estimates**
- U.S. New: 3,170
- FL New: 193
- S.C. New: 54
- U.S. Deaths: 880
- FL Deaths: 55
- S.C. Deaths: 15

Source: 2014 Cancer Facts & Figures - American Cancer Society

**Cervical Cancer – Global**

**Causes and Risk Factors**

**Environmental**
- HPV Infection
- Chlamydia Co-Infection
- HIV Immunosuppression
- Do Not Get Screened
- Oral Contraceptive Use
- Smoking Cigarettes

**Genetic**
- 80% in women > 50yrs
- Personal History
- DES Exposure
- Family History

Sources: Global Cancer Facts & Figures 2008 and mchandaids.org
April 2014 the FDA Approved the First HPV DNA Test for Primary Cervical Cancer Screening for women age 25+ that examines 14 high-risk strains of HPV Test developed by Roche called “cobas”

Clinical Trials suggest “cobas” is better for screening than pap test because it can identify women at risk for pre-cancerous lesions earlier than pap smear

May eventually replace pap smear

## Signs and Symptoms

- Tumor Mass
- Wart-like bump
- Abnormal color
- Abnormal texture
- Itching or Burning
- Unusual vaginal discharge
- Bleeding between periods
- Bleeding after menopause
- Bleeding or pain during sex

http://www.inovio.com

http://www.cdc.gov/cancer/gynecologic/images/GYN_Symptoms
>6 Million Women in U.S. have HPV Infection – at risk
>33% of Women Eligible for Screen are NOT Screened
Routine Screening detects most cancers pre-invasive
PAP and HPV DNA Screening are for “Prevention”
PAP Screening detects >90% of cancers
HPV DNA Screening may replace PAP Screen
Annual PAP No Longer Routine
Post-Menopausal Risk
Other GYN cancers and HPV – vulva, vagina, anus

Source: 2014 Cancer Facts & Figures – American Cancer Society

HPV Vaccine for Prevention of HPV not Treatment

Squamous cell carcinoma
Adenocarcinoma
Adeno-squamous carcinoma
Malignant Melanoma

Other Characteristics

- **Reportable** Non-invasive carcinoma
  - Anus - AIN III
  - Vulva - VIN III
  - Vagina - VAIN III

- **Not Reportable** Non-invasive carcinoma
  - Cervix - CIS (carcinoma in-situ)
  - Cervix - CIN III

Overview – Corpus Uteri

- Incidence and Mortality
- Causes & Risk Factors
- Signs and Symptoms
- WHO Classification
- MP/H Coding Rules
- Stage - CSv02.05/FIGO/TNM/SS2000
- Site-Specific Factors – stage/prognosis/tx
- NCCN/FIGO Treatment Guidelines

Incidence and Mortality

- **Uterine Corpus – 2014 estimates**
  - U.S. New Cases – 47,130
  - U.S. Deaths – 8,010
  - FL. New Cases – 3,410
  - FL. Deaths – 579
  - S.C. New Cases – 750
  - S.C. Deaths – 128

Source: 2014 Cancer Facts & Figures - American Cancer Society
Causes and Risk Factors

Environmental
- Oral Contraceptive Use
- Obesity and Diabetes
- Early age at menarche
- Late menopause
- Null parity - NO Children
- Hormone Manipulation
  - Estrogen Replacement
  - Tamoxifen Therapy
- Recurrent Bladder Infections
- History of Radiation Therapy

Genetic
- Older age (>55 years)
- Race - Uterine Sarcoma
- Retinoblastoma Gene
- Lynch syndrome

Signs and Symptoms
- Unusual vaginal discharge
- Bleeding between periods
- Bleeding after menopause
- Bleeding or pain during sex
- Pelvic pain
- Pain during intercourse
- Pain or difficulty when emptying the bladder

WHO Histologic Classification
- Carcinoma and Carcinosarcoma
  - 8000-8790, 8980-8981, 9700-9701
- Adenosarcoma
  - 8380
- Sarcoma (pure sarcoma)
  - 8890-8898, 8930-8931

Source: 2014 Cancer Facts & Figures - American Cancer Society
Other Characteristics

- ICD-O-3 term “stromal endometriosis” (8931/3) – This Condition IS Reportable

Source: http://fertilitydocs.com/gif/endodiag.gif

Overview – Ovary

- U.S. Incidence and Mortality
- Causes & Risk Factors
- Signs and Symptoms
- WHO Classification
- MP/H Coding Rules
- Stage – CSv02.05/FIGO/TNM/SS2000
- Site-Specific Factors – stage/prognosis/tx
- NCCN/FIGO Treatment Guidelines

Incidence and Mortality

- Ovary – 2014 estimates
  - U.S. New – 21,396
  - FL New – 1,446
  - S.C. New – 354
  - U.S. Deaths – 14,270
  - FL Deaths – 940
  - S.C. Deaths – 230

- Primary Peritoneal New Cases – ??
- Primary Peritoneal Deaths – ??

Impact on Change in Classification – ??

Source: 2014 Cancer Facts & Figures - American Cancer Society
Causes and Risk Factors

**Environmental**
- Hormone manipulation
  - Estrogen Replacement
  - Fertility Drug - Clomid
- Obesity
- Oophorectomy reduces risk of ovarian and fallopian tube cancer, but may increase risk for primary peritoneal cancer after prophylactic salpingo-oophorectomy

**Genetic**
- Age >40
- Family history
- BRCA1 and BRCA2
- Lynch syndrome
- HNPCC syndrome (hereditary non-polyposis colorectal cancer)
- Fallopian Tube-NCN: suggested that these cancers may be the origin of some ovarian and primary peritoneal cancers

Source: 2014 Cancer Facts & Figures - American Cancer Society

Signs and Symptoms

- Pelvic mass detected on abdominal/pelvic exam
- Ascites – malignant fluid in the peritoneal cavity
  - Causes abdominal distention and bloating
- Pelvic or abdominal pain
- Difficulty eating or feeling full quickly – early satiety
- Urinary symptoms (urgency or frequency) without other obvious source of malignancy

http://www.cdc.gov/cancer/gynecologic/images/GYN_Symptoms

WHO Histologic Classification

**Ovarian Epithelial**
- Serous cystadenocarcinoma
- Mucinous cystadenocarcinoma
- Endometrioid adenocarcinoma
- Clear cell cystadenocarcinoma

**Ovarian Germ Cell Tumors**
- Dysgerminoma
- Embryonal carcinoma
- Choriocarcinoma
- Teratoma – malignant reportable

**Borderline Malignant Neoplasm**

Medical Gallery of Mikael Haggstrom 2014; ISSN 2001-8762
WHO Histologic Classification

[Diagram showing types of ovarian cancer]

Source: http://www.clearityfoundation.org/images

Borderline Neoplasm of Ovary

- 1973 – 1989 Not Reportable ICD-O
- 2001 – Not Reportable ICD-O-3
- ??? ??? ICD-O-4

Epithelial Neoplasms - Ovary/Peritoneum

- Bulky Disease at First Presentation
- Common Sites for Seeding
  - Peritoneum
  - Diaphragm
  - Liver Surface
- Pulmonary Involvement Common
- Pleural Involvement Common
- Elevated CA-125 Common
Other Characteristics

- Historical Assessment
- Classified as Ovarian in Origin
  - Serous Tumors with Ovarian Involvement
  - Mucinous Tumors with Ovarian Involvement
- Current Evaluation Criteria – Evolving
- Improvements in Imaging and IHC/FISH expected to reduce misclassification

Serous Tumors forming 6mm mass in ovary should be considered ovarian primaries.

Serous Tumors forming multiple small ovarian masses should be considered peritoneal if the disease is mainly extra-ovarian.

Mucinous neoplasms metastatic to ovary are often misclassified as ovarian primaries.

Germ Cell & Sex Cord Stromal Tumor

Source: http://www.nccn.org/ovary
Parametrium - Connective tissue of the pelvic floor extending from the fibrous subserous coat of the supracervical portion of the uterus laterally between the layers of the broad ligament.

Uterine adnexa - Appendages of the uterus, namely the ovaries, fallopian tubes, and ligaments that hold the uterus in place.
FIGO and AJCC TNM and CS Ext

- FIGO, TNM, and CS criteria for stage are nearly identical
- SS2000 has not been updated to current FIGO criteria
- Use the FIGO stage stated in the medical record
- When both FIGO Stage (or AJCC Stage) and CS Ext detail are available, record the code with extension detail in preference to a statement of FIGO stage

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<th>FIGO Stage</th>
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<th>CS Ext</th>
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<tr>
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CS Schema and TNM Chapter Name
- Adnexa
- Uterine
- Other
- Cervix
- Corpus
- Adenocarcinoma
- Carcinoma
- Sarcoma
- FallopianTube
- GenitalFemaleOther
- MerkelCell
- Vulva
- Ovary
- PeritoneumFemaleGen
- Placenta
- Vagina
- Vulva
TNM – FIGO – CS Data Collection

Staging

Table 1 (Continued)

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<th>D</th>
<th>E</th>
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</table>

Note: For histopathologic and microscopic types see ASC staging manual.

SEER Summary Stage

SS2000 last updated in 2000
SS2000 is NOT consistent with 2010 FIGO Stage

SEER Summary Stage

SS2000 last updated in 2000
SS2000 is NOT consistent with 2010 FIGO Stage

DO NOT USE 2010 FIGO to assign SS2000
DO Apply SS2000 Anatomic Stage Criteria as Described in the SS2000 Manual
Vulva, Vagina, Cervix

Cervix & Vagina: FIGO is Based on Clinical Evaluation
Vulva FIGO is Based on Pathologic Evaluation

Vulva/Cervix FIGO Stage
- T: Depth of Invasion
- N and M: Standard

Multiple CS Schema
- Vulva – Melanoma – Use Melanoma Skin Schema
- Vulva – Merkel Cell Carcinoma Schema – NO FIGO
- Vulva – Epithelial Carcinoma – SCC, AdenoCA
- Vagina – all histology except lymphoid neoplasm
- Cervix – all histology except lymphoid neoplasm

Vulva – FIGO (unless have more info)

Merkel Cell Carcinoma – Vulva – NO FIGO

<table>
<thead>
<tr>
<th>Stage</th>
<th>T</th>
<th>N</th>
<th>M</th>
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</thead>
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<td>IV</td>
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</table>

Vulva – RCO (unless have more info)

- Vulva – FIGO (unless have more info)
- Merkel Cell Carcinoma – Vulva – NO FIGO
Corpus Uteri – Endometrium – Uterus

FIGO Stage is Based on Surgical Evaluation

TNM based on FIGO
- T: Depth of Invasion
- N and M: Standard

3 Different CS Schema
- Sarcoma: leiomyosarcoma/stromal sarcoma
  - 8890-8898, 8930-8931
- Carcinoma: carcinoma and carcinosarcoma
  - 8000-8790, 8980-8981, 9700-9701
- Adenosarcoma: adenosarcoma
  - 8933
Ovary
- Based on Combined Clinical/Surgical Evaluation
- T: based on bilaterality, positive ascites, other sites
- N and M: standard

Fallopian Tube
- Based on Combined Clinical/Surgical Evaluation
- T: based on bilaterality, positive ascites, other sites
- N and M: standard
1. Ascites Positive ascites changes stages I and II to IC and IIC.

2. Pelvic organs* coded to FIGO Stage II
   * Adnexa, bladder (including serosa), urethra, prostatic utricle, rectum, pelvic peritoneum, pelvic wall, rectum, sigmoid, colon, uterus, vagina, urethra, serosa

3. Abdominal organs* coded to FIGO III
   * Abdominal mesentry, diaphragm, gallbladder, infarcted omentum, kidneys, large intestine except rectum and sigmoid, peritoneal surface of liver, omentum, pancreas, paracolic gutter, peritoneum, R/O small intestine, spleen, stomach, uterus
   * Involvement may be direct or discontinuous

Gynecologic Cancers

1. Ascites Positive ascites changes stages I and II to IC and IIC.

2. Pelvic organs* coded to FIGO Stage II
   * Adnexa, bladder (including serosa), urethra, prostatic utricle, rectum, pelvic peritoneum, pelvic wall, rectum, sigmoid, colon, uterus, vagina, urethra, serosa

4. CS Mets at Dx
   - Liver parenchymal metastases area coded in M1
   - Implants (discontinuous metastases) seeding, salting, or studding
   - Determine whether implants are
     - T2 within the Pelvis
     - T3 outside the pelvis
     - M1
   - Implants outside the pelvis must be microscopically confirmed.

5. Post Cytoreduction (debulking) - Residual Tumor Status

Surgical Staging Should Include:
- Removal of para-aortic lymph nodes
- Removal pelvic lymph nodes
- Removal primary tumor
- Uterus
- Cervix
- Vagina
- Peritoneal washings
- Removal of omentum
- Liver examination with biopsy as indicated
- Scraping of area under the right diaphragm

Source: http://www.kkh.com.sg/Health/PublishingImages
Primary Peritoneum - FEMALE

- Based on Combined Clinical/Surgical Evaluation
- T: based on positive ascites and other involvement
- N and M: standard
- MUST Use SFR25 (Discriminator) to assign "female" to site
- Why? So we can identify and group ovarian/peritoneal cases
- Why? So we can separate out the mesothelioma cases
- What other cancers occur in peritoneum?
  - Males:
    - Sarcoma - various types
    - Germ Cell Tumors
    - Mesothelioma
  - Females:
    - Includes Same Histologies as Ovary
    - Mesothelioma

Abdominal organs* coded to FIGO III

- Abdominal mesentery, diaphragm, gallbladder, infacol, omentum, cecum, appendix, transverse colon, ascending colon, descending colon, sigmoid colon
- Involvement may be direct or indirect
- Gynecologic Cancers

1. Ascites Positive ascites changes stages I and II to IC and IIC.
2. Pelvic organs* coded to RGO Stage II
   - Adnexa, bladder (including seminal), uterine fundus, clitoral atresia, fallopian tubes, parametrium, pelvic, peritoneum, pelvic wall, rectum, sigmoid colon, uterus, tubes, ovary, serosa
   - Involvement of extra pelvic structures (e.g., omentum, liver, stomach, spleen, mesentery)
4. CS Mets at DX
   o Liver parenchymal metastases area coded in M1
   o Implants (site contiguous metastases) seeding, saltting, or studding
   o Determine whether implants are
     o T2 within the Pelvis
     o T3 outside the pelvis
     o M1
   o Implants outside the pelvis must be microscopically confirmed.

5. Post Cytoreduction (debulking) - Residual Tumor Status

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FCDS Required GYN Site Specific Factors

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<thead>
<tr>
<th>Adnexa</th>
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Practice Cases

https://educate.fhcrc.org/index.aspx

Learn by Doing – TNM Series Release
Web Browsers Supported: Firefox, Chrome, Internet Explorer Versions 9, 10, and 11
Practical application using CT/PEX, CD/EX, TNM, and 2014 New Standards (if available)
1. Go to Training Menu
2. Select Practical Application Tests
3. Select Type of Practical Application
   - Case Coding - CSV02
   - Heme 2014 Cases
   - TNM 7th Edition
4. Select Cancer Site - 10+ cases/site
5. Select Case
6. Start Test

Open Case
Choosing the Most Appropriate Type of Surgery Based on Clinical Stage

- Laser Surgery
- Local Excision
- Wide Local Excision
- Partial or Radical
  - Vaginal therapy
  - Vaginal surgery
- S.N. Biopsy
- LN Dissection
- Hysterectomy
- Vaginal
- Abdominal

Any Histology

External radiation therapy with high-energy beam

- Intracavitary radiation therapy
  - Low-dose brachytherapy
  - High-dose brachytherapy
- Intertitial radiation therapy
  - Needles containing radioactive material are placed directly into the cancer and surrounding tissue(s)
- Combinations of above

http://radonc.ucla.edu/Gyn-CTDosimetry

Early Stage Chemotherapy/Immunotherapy Options

- Fluorouracil (5FU) - Topical Chemotherapy applied directly to skin
- Imiquimod - Topical Immunotherapy applied directly to affected skin

Targeted Therapies – Cetuximab, Erlotinib or Pazopanib + or – Chemotherapy
Primary and Palliative Surgery

Primary Surgery
- Radical pelvic dissection
- Bowel resection
- Dissection or other peritoneal surface stripping
- Omentectomy
- Splenectomy
- Partial hepatectomy
- Cholecystectomy
- Partial cystectomy
- Ureterectomy
- Distal pancreatectomy

Ancillary/Palliative Surgery
- Paracentesis
- Thoracentesis/pleurodesis
- Biliary stents
- Nephrostomy
- Surgical relief of intestinal obstruction
- Gastrostomy tube
- Vascular access device
- Nasogastric or peritoneal dialysis catheter
- Intestinal stents
- Video assisted thoracoscopy
Surgery
Chemotherapy Regimens
- RIP – paclitaxel, ifosfamide, cisplatin
- VeIP – vinblastine, ifosfamide, cisplatin
- VIP – etoposide (VP-16), ifosfamide, cisplatin
Add Bleomycin for Stromal Tumors
Palliative Care

- Comfort care given to a patient who has a serious or life-threatening disease
- Addresses the emotional, physical, practical, and spiritual issues of cancer – may be directed to treat cancer or to treat the patient
- Palliative care procedures that remove tumor or treat neoplasm are included in the abstract and coded as treatment
- Provided by a specialist who works with a team of other healthcare professionals
- Palliative Care is different from hospice care - can begin at time of diagnosis and last throughout the patient's life
- Hospice Care (end of life care) often accompanied by palliative care for pain control and symptom control

Additional Resources

- SEER Training for Cancer Registry Professionals
- SEER Educate for Practice Cases and Other Training
- 2003 WHO Classification of Tumours of Female Genital Organs, World Health Organization, Lyon, France, 2003
- NCI Physician Data Query for Healthcare Professionals
- CDC Information about GYN Cancer
- American Cancer Society
- Multiple Primary and Histology Coding Rules, SEER 2007
- Collaborative Stage Data Collection System, AJCC, 2012
- FIGO Staging Classifications for GYN Cancers, FIGO, 2012
- NCCN Evidence-Based Treatment Guidelines, NCCN, 2015

Questions

http://www.cdc.gov/cancer/gynecologic