Neoplasms of the Prostate and Bladder

2015-2016 FCDS Educational Webcast Series

Steven Peace, BS, CTR

September 19, 2015

2015 Focus
- Anatomy
- SSS 2000
- MPH Rules
- AJCC TNM

CDC & Florida DOH Attribution

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Presentation Outline

- Introduction to Neoplasms of the Bladder and Urothelium
- Introduction to Neoplasms of the Prostate
- Genitourinary System Anatomy – male and female
- Multiple Primary and Histology Coding Rules (MPH)
- Anatomic Staging - AJCC TNM 7th edition and SS2000
- Text Documentation
- Staging Practice

REMINDER: LOG YOUR CEUs INTO FCDS CEU TRACKING including both "live" and "recording" attendance

Source: Cancer Facts and Figures 2015
Introduction to Neoplasms of the Bladder and Urothelium

Urothelium

The layer of transitional epithelium that lines the wall of the renal pelvis, ureters, the bladder, and parts of the urethra

The urothelial lining may be exposed to urinary carcinogens derived from tobacco smoke, dietary, occupational or environmental chemicals while the lining is performing its usual function to collect, store, and transport urine.

Carcinogenic urine can sit in the bladder or collecting ducts for long periods of time – constantly exposing the urothelial lining to carcinogens.
Field Effect Theory

The field effect theory suggests that the urothelium has undergone a widespread change, perhaps in response to a carcinogen, making it more sensitive to malignant transformations.

As a result, multiple tumors arise more easily.

Recent scientific evidence supported by molecular analysis of microsatellite alterations and X-chromosome inactivation status in cells examining coexisting tumors leads to the development of multiple, genetically unrelated tumors further supporting the field effect theory.

Implantation Theory

Implantation theory suggests that the multiple tumors are of monoclonal origin, arising from a single malignant transformed cell which proliferates and spreads throughout the urothelium either by intraluminal spread with secondary implantation at different sites within the urinary tract or by intraepithelial migration.

The implantation theory suggests that tumor cells in one location lose their attachments and float in the urine until they attach (implant) on another site.

Urothelial tumors may spread in a head-to-toe direction, for example from the renal pelvis to the ureter(s) to the bladder.
Prognostic Factors

- Patient Age
- Tumor Location
- Size of Tumor(s)
- Number of Tumors
- Tumor Behavior and Histologic Type
- Tumor Grade or Degree of Differentiation
- Depth of Invasion into Bladder Wall
- Regional Lymph Node Metastasis
- Other regional or distant metastasis

Bladder Tumor Characteristics

Source: 2007 MPH Rules - Table 1 – Urothelial Tumors and www.nature.com/nrc/journal/v15/n1
Incidences Rates by Stage over Time

Source: Cancer, December 1, 2014 Bladder Cancer CS Variables

**Bladder Histology**

- Urothelial Carcinoma = Transitional Cell Carcinoma
- TCC Papillary or Flat is NOT a Histologic Sub-type - **BUT**
- Squamous Cell Carcinoma
- Adenocarcinoma
- Small Cell Carcinoma
- Small Cell Neuroendocrine Carcinoma
- Micropapillary Urothelial Carcinoma

Source: 2051 NCCN Guidelines - Bladder
Urothelial/Transitional Cell Tumors

Table 1 – Urothelial Tumors
Note: Excludes pure squamous carcinoma, glandular (adenoc.) carcinoma, or other bladder tumor histologies.

<table>
<thead>
<tr>
<th>Urothelial/Transitional Cell Tumors</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>With squamous differentiation</td>
<td>$120</td>
</tr>
<tr>
<td>With glandular differentiation</td>
<td></td>
</tr>
<tr>
<td>With transitional differentiation</td>
<td></td>
</tr>
<tr>
<td>Nested</td>
<td></td>
</tr>
<tr>
<td>Microcystic</td>
<td></td>
</tr>
<tr>
<td>Transitional cell, NOS</td>
<td></td>
</tr>
<tr>
<td>Papillary carcinoma</td>
<td>$130</td>
</tr>
<tr>
<td>Papillary transitional cell</td>
<td></td>
</tr>
<tr>
<td>Micropapillary</td>
<td>$131</td>
</tr>
<tr>
<td>Deeply invasive micropapillary</td>
<td>$882</td>
</tr>
<tr>
<td>Plasmacytoid</td>
<td></td>
</tr>
<tr>
<td>Sarcomatoid</td>
<td>$122</td>
</tr>
<tr>
<td>Giant cell</td>
<td>$931</td>
</tr>
<tr>
<td>Undifferentiated</td>
<td>$830</td>
</tr>
</tbody>
</table>

Source Multiple Primary & Histology Coding Rules - Table 1 – Urothelial Tumors

Tumor Grade and Behavior

Table 1. Principles of Pathology Management: Malignancy Grading of Bladder Carcinoma: Old and New Systems*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Papilloma grade 0</td>
<td>Papilloma</td>
<td>Papilloma</td>
</tr>
<tr>
<td>Papilloma with atypia grade 1</td>
<td>TCC grade 1</td>
<td>Papillary urothelial neoplasm of low malignant potential</td>
</tr>
<tr>
<td>Urothelial carcinoma grade 2A</td>
<td>TCC grade 1</td>
<td>Urothelial carcinoma, low-grade</td>
</tr>
<tr>
<td>Urothelial carcinoma grade 2B</td>
<td>TCC grade 2</td>
<td>Urothelial carcinoma, low-grade or high-grade</td>
</tr>
<tr>
<td>Urothelial carcinoma grade 3</td>
<td>TCC grade 3</td>
<td>Urothelial carcinoma, high-grade</td>
</tr>
</tbody>
</table>

Source: 2015 NCCN Guidelines – Bladder
**Tumor Grade and Behavior**

- WHO 1973:
  - Papilloma
  - G1
  - G2
  - G3

- WHO 2004:
  - Papilloma
  - Low grade
  - High grade
  - PUNLMP

### Approximate Probability of Recurrence and Progression

<table>
<thead>
<tr>
<th>Pathology</th>
<th>Approximate Probability of Recurrence in 5 years</th>
<th>Approximate Probability of Progression to Muscle Invasion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ta, low grade</td>
<td>50%</td>
<td>Minimal</td>
</tr>
<tr>
<td>Tb, high grade</td>
<td>60%</td>
<td>Moderate</td>
</tr>
<tr>
<td>T1, low grade (tun)</td>
<td>50%</td>
<td>Moderate</td>
</tr>
<tr>
<td>T1, high grade</td>
<td>50%-70%</td>
<td>Moderate-High</td>
</tr>
<tr>
<td>Tis</td>
<td>50%-80%</td>
<td>High</td>
</tr>
</tbody>
</table>

Source: http://www.europeanurology.com and nccn.org

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**Tumor Grade and Treatment**

### Principles of Intravesical Treatment

- **Immediate Intravesical Chemotherapy**
  - Initiated within 24 hrs after resection
  - Use after TUR lowers recurrence rate in Ta, low-grade tumors
  - Treatment should not be given if extensive TURBT or if suspected bladder perforation

- **Induction Intravesical Chemotherapy**
  - Initiated 3-4 wks after resection
  - Maximum of 2 inductions without complete response
  - Maintenance therapy is optional

- **Induction Intravesical Immunotherapy**
  - Initiated 3-4 wks after resection
  - Withdraw if traumatic catheterization, bacteriuria, persist symptoms
  - Maximum of 2 inductions without complete response
  - Some data suggest benefit of maintenance therapy
  - Dose reduction is encouraged if there are substantial loc

### Approximate Probability of Recurrence and Progression

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</tr>
</tbody>
</table>

Source: 2015 NCCN Guidelines - Bladder
Introduction to Neoplasms of the Prostate

Screening Recommendations

<table>
<thead>
<tr>
<th>Population</th>
<th>Adult males</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendation</td>
<td>Do not use prostate-specific antigen (PSA) based screening for prostate cancer.</td>
</tr>
</tbody>
</table>

Source: U.S. Preventive Services Task Force
Prostate Histology

- 98% Adenocarcinoma
  - Code acinar as adenoca
- 2% Other
  - Neuroendocrine carcinoma
  - Small cell carcinoma
  - Lymphoma
  - Sarcoma
- PIN III
  - Do NOT abstract
  - 30% men develop invasive CA
  - Follow-up for 2 years

Prognostic Factors

- Extent of Tumor
- Gleason Grade of Tumor
- Patient’s age and overall health
- Prostate-specific antigen (PSA) level
ANATOMY

Source: Pokemon Anatomy Chart - Bulbasaur

Gross Anatomy of Urothelium

Includes:
- C65.9 - Renal Pelvis
- C66.9 - Ureter
- C67.0-C67.9 - Bladder
- C68.0-C68.9 - Urinary Other

Source: http://www.medicinenet.com
Male and Female Differences

Source: http://Wikipedia/images

Anatomy of Bladder

Anatomy of Bladder Wall

Sources: http://www.cancer.org and http://topmedicaljournals.com

Layers of Wall Lining the Urothelium

- **Mucosa**
- Urothelium
- Epithelium
- Mucosal Surface
- Transitional Mucosa
- Tunica Mucosa
- Vesicae Urinariae

- **Submucosa**
  - Lamina Propria
  - Muscularis Mucosa
  - Subepithelial Tissue
  - Suburothelial Connective Tissue
  - Stroma

- **Muscle / Muscularis**
  - Muscularis Propria
  - Muscularis Externa
  - Smooth Muscle

Source: https://anatomyeshs/ch17
The prostate is a gland found ONLY in men.

It is located in front of the rectum and under the bladder.

The size of a healthy prostate gland is about the size of a walnut.

Source: http://www.abbottdiagnostics.com, U.S. National Cancer Institute

Prostate Anatomy

- Lateral lobes
- Anterior lobe
- Median lobe
- Posterior lobe
- Prostate capsule
- Urethra
- Ejaculatory ducts


Anatomy Related to Diagnosis

Patterns for Needle Biopsy of Prostate

Material provided by Prostate Cancer Research Institute (PCRI)
Anatomy Related to Stage - DRE

Material provided by Prostate Cancer Research Institute (PCRI)

Anatomy Related to Staging

Source: http://www.prostatecareqld.com.au
Multiple Primary and Histology Coding Rules

- Terms & Definitions
- Multiple Primary Rules
- Histology Coding Rules

Prostate - MPH Rules

Only ONE Prostate Cancer DX per patient lifetime

Acinar Carcinoma, Code to 8140 (Adenocarcinoma)
Urothelial MPH Rules

Includes:
✓ C65.9 - Renal Pelvis
✓ C66.9 - Ureter
✓ C67.0-C67.9 - Bladder
✓ C68.0-C68.9 - Urinary Other

Source: http://www.medicinenet.com

Terms and Definitions

Source Multiple Primary & Histology Coding Rules - Urothelial Tumors
Bladder Cancer Staging

Source: http://topmedicaljournals.com

In Situ Neoplasm

- CIS definition
  - Has not involved any structures in primary organ that
  - Allows tumor cells to spread to regional nodes or distant sites

- CIS exception to stage group guidelines
  - Clinical stage
    - pTis cN0 cM0 clinical stage 0
  - Pathologic stage
    - pTis cN0 cM0 pathologic stage 0

- Caution for pathologic stage
  - Cannot use CIS rule in isolation
  - Must also meet pathologic stage resection criteria
    - Avoids sampling error when resection might show invasion
    - Example: TURB
Bladder Cancer Staging

AJCC TNM and SS2000
Bladder Site-Specific Factors

- SSF1: WHO/ISUP Grade
  - Low Grade
  - High Grade

- SSF2: Size of Metastasis in Lymph Node

- SSF3: Extranodal Extension

Prostate Cancer Staging

Source: AJCC Prostate Cancer Staging Poster and http://www.prostatecareqld.com.au
AJCC TNM – Clinical/Pathologic

**CLINICAL STAGE**
Prior to Prostatectomy
- Bx for Elevated PSA
- Clinically Inapparent
- Clinically Apparent

Used to Develop a Treatment Plan

**PATHOLOGIC STAGE**
DO NOT COPY CLINICAL
MUST HAVE PROSTATECTOMY

Pathologic Evaluation
- Surgical Findings
- Prostatectomy Specimen

---

Clinical Stage: Why Important?

- **Clinical T1a and T1b**
  - Incidentally detected during a TURP for BPH – no elevated PSA

- **Clinical T1c and T2**
  - PSA positive only T1c – not clinically evident
  - *Note: Tumor found in one or both lobes by needle biopsy, but not palpable or visible by imaging, is classified as T1c*
  - DRE detects tumor T2 (palpable) – clinically evident – then you can determine if 1 or both lobes involved and level of involvement

- **Clinical T3**
  - DRE detects palpable disease sufficient to indicate the tumor has penetrated thru the prostate capsule including seminal vesicle
Clinical Stage Illustrations

T1 (a,b,c)  
T2 (a,b,c)  
T3 (a,b)

Clinical Stage: Why Important?

Clinical T4  
- Indicates local invasion of adjacent structures.  
- Tumor is fixed or invades adjacent structures other than seminal vesicles such as external sphincter, rectum, bladder, levator muscles, and/or pelvic wall.

Source: AJCC Prostate Cancer Staging Poster
Pathologic Stage Parameters

✓ NO pT1 Category allowed
✓ TURP – though stated a resection of prostate it is not a prostatectomy
✓ MUST HAVE Total Prostatectomy including lymph node dissection
✓ USE BOTH Operative Report and Pathology Report in pTNM
✓ Document Pathologic Staging Parameters from Radical Prostatectomy
✓ EXCEPTIONS (histologic evidence from bx of highest T category):
  ✓ Positive biopsy of rectum is sufficient to stage pT4
  ✓ Biopsy indicating spread to extraprostatic soft tissue is sufficient to stage pT3
  ✓ Biopsy indicating spread to seminal vesicles is sufficient to stage pT3

Prostatectomy Procedures

30 Subtotal, segmental, or simple prostatectomy, which may leave all or part of the capsule intact
30 Radical prostatectomy, NOS; total prostatectomy, NOS

Excised prostate, prostatic capsule, ejaculatory ducts, seminal vesicle(s) and may include a narrow cuff of bladder neck:

70 Prostatectomy WITH resection in continuity with other organs; pelvic exenteration

Surgeries coded 70 are any prostatectomy WITH resection in continuity with any other organ. The other organs may be partially or totally removed. Procedures may include, but are not limited to, cystoprostatectomy, radical cystectomy, and prostatectomy.

[NOTE: In continuity with or "en bloc" means that all of the tissues were removed during the same procedure, but not necessarily in a single specimen. ] No prostatectomy would be coded as any other prostatectomy depending on the extent of the procedure coded 50-80 per FORSD.
NOT A PROSTECTOMY

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>None: no surgery of primary site, no delay ONLY</td>
</tr>
<tr>
<td>11</td>
<td>Local tumor destruction or excision, NOS</td>
</tr>
<tr>
<td>19</td>
<td>Transurethral resection (TURP), NOS</td>
</tr>
<tr>
<td>10</td>
<td>Local tumor destruction, NOS</td>
</tr>
<tr>
<td>14</td>
<td>Cryo prostatectomy (Cryosurgery)</td>
</tr>
<tr>
<td>15</td>
<td>Laser ablation</td>
</tr>
<tr>
<td>16</td>
<td>Hyperthermia</td>
</tr>
<tr>
<td>17</td>
<td>Other method of local tumor destruction</td>
</tr>
<tr>
<td>20</td>
<td>Local tumor excision, NOS</td>
</tr>
<tr>
<td>21</td>
<td>Transurethral resection (TURP), NOS</td>
</tr>
<tr>
<td>22</td>
<td>TURP cancer is incidental finding during surgery for benign disease</td>
</tr>
<tr>
<td>23</td>
<td>TURP patient has unsuspected known cancer</td>
</tr>
<tr>
<td>54</td>
<td>Specimen sent to pathology from surgical event 20-26</td>
</tr>
</tbody>
</table>

NOT A PROSTECTOMY

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>Prostatectomy, NOS</td>
</tr>
<tr>
<td>90</td>
<td>Surgery, NOS</td>
</tr>
<tr>
<td>99</td>
<td>Unknown if surgery performed; death certificate ONLY</td>
</tr>
</tbody>
</table>
AJCC TNM and SS2000

Primary tumor (T)

T0
Primary tumor cannot be assessed
T1
Clinically apparent tumor not palpable nor visible by imaging
T1a
Clinically apparent tumor involving the prostate only
T1b
Clinically apparent tumor involving more than one half of the prostate
T1c
Clinically apparent tumor involving less than one half of the prostate
T2
Tumor confined within prostate
T2a
Tumor confined within prostate
T2b
Tumor extends through the prostatic capsule
T3
Tumor invades pelvic soft tissue
T3a
Tumor invades pelvic soft tissue
T3b
Tumor invades extraprostatic tissue
T3c
Tumor invades contiguous pelvic tissue
T4
Tumor invades bladder, rectum, or beyond

Pathologic tumor (Tp)

pT2a
No evidence of nodal involvement
pT2b
Regional lymph node involvement
pT3
Pathologic tumor extends through the prostatic capsule
pT4
Pathologic tumor invades extraprostatic tissue

Regional lymph nodes (N)

N0
No regional lymph node metastases
N1
Metastasis in regional lymph nodes

Pathologic nodal metastasis (Np)

pN0
No pathologic node metastasis
pN1
Pathologic node metastasis

Erectum metastases (M)

M0
No distant metastasis
M1a
Local metastasis
M1b
Regional lymph node metastasis
M1c
Other sites with or without bone disease

Source: 2015 NCCN Guidelines - Prostate

AJCC TNM and SS2000

SUMMARY STAGE

Tis, N0, M0, prostate only

1 Localized only

Stage T1a-c
Primary tumor confined to the prostate

Stage T1b
Primary tumor involving more than one half of the prostate

Stage T2a
Primary tumor involving less than one half of the prostate

Stage T3a
Primary tumor involving adjacent structures other than seminal vesicles, bladder, or rectum

Stage T3b
Primary tumor involving seminal vesicles, bladder, or rectum

Stage T4
Primary tumor involving bladder, rectum, or beyond

2 Regional lymph nodes involved only

Regional lymph nodes (including contralateral) or hilar

Node, N0
Node, N1
Node, N2
Node, N3
Node, N4

3 Regional lymph nodes involved only

Regional lymph nodes (including contralateral) or hilar

Node, N0
Node, N1
Node, N2
Node, N3
Node, N4
Prostate Site Specific Factors

<table>
<thead>
<tr>
<th>SSF #</th>
<th>SSF Name</th>
<th>FCDS Required</th>
<th>CoC Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSF1</td>
<td>PSA Lab Value</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>SSF2</td>
<td>PSA Interpretation</td>
<td>-</td>
<td>YES</td>
</tr>
<tr>
<td>SSF3</td>
<td>CS Extension – Pathologic Ext</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>SSF7</td>
<td>Gleason Pattern – biopsy/TURP</td>
<td>-</td>
<td>YES</td>
</tr>
<tr>
<td>SSF8</td>
<td>Gleason Score – biopsy/TURP</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>SSF9</td>
<td>Gleason Pattern – prostatectomy/autopsy</td>
<td>-</td>
<td>YES</td>
</tr>
<tr>
<td>SSF10</td>
<td>Gleason Score – prostatectomy/autopsy</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>SSF11</td>
<td>Gleason Tertiary – prostatectomy/autopsy</td>
<td>-</td>
<td>YES</td>
</tr>
<tr>
<td>SSF12</td>
<td>Number of Cores Positive</td>
<td>-</td>
<td>YES</td>
</tr>
<tr>
<td>SSF13</td>
<td>Number of Cores Examined</td>
<td>-</td>
<td>YES</td>
</tr>
<tr>
<td>SSF14</td>
<td>Needle Core Biopsy Findings</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SSF15</td>
<td>Clinical Staging Procedures Performed</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

PSA Lab Value – SSF 1

- Rapid change in PSA over 1 year\(^1\)
  - 0.75 ng/mL/year when PSA is 4-10 ng/mL
- High PSA value for age\(^1,2\)
  - 4.0 ng/mL was originally used to differentiate normal PSA level from pathologic elevation
- Age-specific references have been used to improve sensitivity

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Parameter(^3)</th>
<th>Serum PSA Concentration (ng/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-49</td>
<td>0.25</td>
<td>0.4-6.5</td>
</tr>
<tr>
<td>50-59</td>
<td>0.3</td>
<td>0.4-6.5</td>
</tr>
<tr>
<td>60-69</td>
<td>0.4</td>
<td>0.4-6.5</td>
</tr>
<tr>
<td>70-79</td>
<td>0.5</td>
<td>0.4-6.5</td>
</tr>
</tbody>
</table>
“Watch Your Decimal Point”

- CS Tumor Size: XXX
  - 6.5 mm = 007
  - 1.4 mm = 001
  - 8.0 mm = 008
  - 2.5 cm = 25 mm = 025
  - 4 cm = 40 mm = 040
- Melanoma Breslow SSF 1: X.XX
  - 0.02 mm = 002
  - 0.50 mm = 050
  - 0.74 mm = 074
  - 1.07 mm = 107
  - 1.50 mm = 150
- Prostate PSA SSF 1: XX.X
  - Colon/Rectum CEA SSF 3: XX.X
  - 0.1 ng/ml or less = 001
  - 0.08 ng/ml = 001
  - 0.2 ng/ml = 002
  - 4.8 ng/ml = 048
  - 12.4 ng/ml = 124
  - 98.0 or more = 980

Gleason Pattern and Score

- [Diagram showing Gleason patterns and scores]
Gleason – Biopsy or Prostatectomy

<table>
<thead>
<tr>
<th>SSF #</th>
<th>SSF Name</th>
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<tbody>
<tr>
<td>SSF7</td>
<td>Gleason Pattern – biopsy/TURP</td>
</tr>
<tr>
<td>SSF8</td>
<td>Gleason Score – biopsy/TURP</td>
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<tr>
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</tr>
<tr>
<td>SSF11</td>
<td>Gleason Tertiary – prostatectomy/autopsy</td>
</tr>
</tbody>
</table>

Gleason to Grade Conversion

<table>
<thead>
<tr>
<th>Gleason Score</th>
<th>Differentiation</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gleason 2-6</td>
<td>Well Differentiated</td>
<td>1</td>
</tr>
<tr>
<td>Gleason 7</td>
<td>Moderately Differentiated</td>
<td>2</td>
</tr>
<tr>
<td>Gleason 8-10</td>
<td>Poorly Differentiated</td>
<td>3</td>
</tr>
</tbody>
</table>
Number of Cores

<table>
<thead>
<tr>
<th>SSF #</th>
<th>SSF Name</th>
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<tbody>
<tr>
<td>SSF12</td>
<td>Number of Cores Positive</td>
</tr>
<tr>
<td>SSF13</td>
<td>Number of Cores Examined</td>
</tr>
</tbody>
</table>

Text Documentation

Source: NCRA Informational Abstracts – Improving Text
Text Documentation

Source: NCRA Informational Abstracts – Improving Text

Staging Practice
Case 1 – Case Vignette

HISTORY: 65 year old black male admitted with intermittent microscopic hematuria. History of prostate cancer. History of 1pdp smoker x 45yrs.

CT CHEST: no abnormalities noted

CT ABDOMEN: negative

CYSTOSCOPY: 2 papillary projections identified, one along the right lateral wall, the other in the trigone area of the bladder. TURBT was performed.

PATHOLOGY: Bladder biopsy (TURBT) – low grade papillary urothelial carcinoma (no mention of invasion)

FINAL DX: Papillary urothelial carcinoma of bladder, low grade. Repeat cystoscopy in 3 months.

---

Case 1 – Answer & Rationale

NOTE: FCDS will reinforce the AJCC Instruction regarding use of “blank” versus “X” However, for practical purposes “X” and “blank” will be treated as equal values.
Case 2 – Case Vignette

HISTORY: 77 year-old female with painless hematuria and clotting. TURBT PTA indicated multiple high grade urothelial carcinomas largest showing muscle invasion to at least the T2 level. Admitted for radical cystectomy following 4 cycles neoadjuvant chemotherapy (gemcitabine, cisplatin).

PRE-OP CT CHEST/ABD/PELVIS: few small (<1cm) nonspecific hilar lymph nodes noted in chest. Abdomen and pelvis – 3.2cm lesion in right posterior bladder wall highly suspicious for bladder cancer. 2.5cm right obturator node suspicious for metastatic carcinoma. Exam otherwise negative.

PROCEDURE: Radical cystectomy with TAH/BSO and bilateral pelvic lymph node dissection, ileal conduit diversion

PATHOLOGY: High grade (grade 3 of 3) urothelial carcinoma with squamous differentiation. PSA/PAP negative, CK7+, CK20+, 34betaE12+. Main tumor mass invades lamina propria deep into muscularis propria. Bilateral obturator and iliac nodes all negative for mets (0/11)

FINAL DX: High grade urothelial carcinoma of bladder s/p neoadjuvant chemotherapy. Radical cystectomy with ileal conduit this admission.
**Case 2 – Answer & Rationale**

<table>
<thead>
<tr>
<th>Practice Case 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C67.9 – Bladder, NOS (multiple tumors in bladder)</strong></td>
</tr>
<tr>
<td><strong>8120/34 – Urothelial Carcinoma, invasive – (do not code squamous differentiation per MPH) – high grade</strong></td>
</tr>
</tbody>
</table>

| Clinical TNM  
AJCC Stage Group  |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>cT2N1M0</td>
</tr>
<tr>
<td>cIV</td>
</tr>
</tbody>
</table>
| T based on pre-surgical and pre-chemotherapy (clinical) statement of muscle invasion (T2)  
N based on imaging 2.5cm obturator LN  
NOTE: the hilar lymph nodes in chest are subclinical in size (<2cm) classified not involved.  
M1 not allowed  
M0 based on negative CT chest and abdomen |

| Pathologic TNM  
AJCC Stage Group |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ypT2bN0M0/blank</td>
</tr>
<tr>
<td>ypII</td>
</tr>
</tbody>
</table>
| yp classification - cystectomy AFTER neoadjuvant chemotherapy  
-- T2b based on resected specimen and primary tumor extension deep into muscularis propria (even after chemo), nodes were negative post-chemo  
Clinically no systemic disease BUT cannot enter pM unless proven by cytology, bx or resection of mets so M is left blank |

<table>
<thead>
<tr>
<th>SEER Summary Stage 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Rec LN only</td>
</tr>
<tr>
<td>Notice the wide variation for the staging classifications across staging systems - indicating need to exercise caution and take your time assigning stage in all cases and always reference your manuals -- don't just guess or assume stage</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SSFs</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSF3 - WHO Grade - 020</td>
</tr>
<tr>
<td>SSF2 - Size Met LN - 025</td>
</tr>
<tr>
<td>SSF3 - Extranodal Ext-030 (no mention extranodal)</td>
</tr>
</tbody>
</table>

**NOTE:** FCDS will reinforce the AJCC Instruction regarding use of “blank” versus “X”  
However, for practical purposes “X” and “blank” will be treated as equal values.

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**Case 3 – Case Vignette**

**HISTORY:** 61 yr old man, lifelong smoker, with frequent and urgent urinary symptoms and microscopic hematuria noted on routine exam.

**CT ABDOMEN:** Negative

**CT CHEST:** Negative

**CYSTOSCOPY:** Flat urothelial carcinoma diffuse involvement of bladder - multiple biopsies with fulguration and administration Intravesical BCG

**PATHOLOGY:** flat urothelial carcinoma, high grade, diffuse - Tis

**TREATMENT:** TURBT with Intravesical BCG (now and for next 6 weeks)
**NOTE:** FCDS will reinforce the AJCC Instruction regarding use of “blank” versus “X” however, for practical purposes “X” and “blank” will be treated as equal values.

### Case 3 – Answer & Rationale

**Practice Case #3**

<table>
<thead>
<tr>
<th>Clinical TNM</th>
<th>AJCC Stage Group</th>
<th>cT0cM0</th>
<th>c0i0s</th>
</tr>
</thead>
<tbody>
<tr>
<td>C67.8 – Bladder, Overlapping (diffuse involvement of bladder)</td>
<td>Flat Urothelial Neoplasm – Tis when no mention of invasion or specimen demonstrates no invasion. CANNOT HAVE A CLINICAL IN-SITU “T” CATEGORY. BUT...CAN HAVE cStageGroup In-Situ (c0is or c0is).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$120/24 – Flat Urothelial Carcinoma High Grade – In Situ urothelial carcinomas, high grade</td>
<td>N based on negative CT Abdomen MX not allowed. M0 based on negative CT scans</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pathologic TNM**

<table>
<thead>
<tr>
<th>AJCC Stage Group</th>
<th>pT0cM0</th>
<th>p0i0s</th>
</tr>
</thead>
<tbody>
<tr>
<td>The T category for non-invasive (Ta, Tis) urothelial cancers is coded under Pathologic not Clinical – c0i0s Stage Group is coded under cStageGroup Do not assign 0A/0B Stage Group without cystectomy. The AJCC TNM Manual states that pathologic staging for bladder is based on histologic review of radical or partial cystectomy specimen. TURBT not a cystectomy. No pathologic assessment criteria met for T or N or M - so all should be blank. X will be allowed but blank is best answer.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SEER Summary**

<table>
<thead>
<tr>
<th>Stage 2000</th>
<th>0 In Situ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both Ta and Tis are assigned SS2000 Stage = 0 for In Situ disease</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SSFs</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSF1 - WHO Grade - 020</td>
</tr>
<tr>
<td>SSF2 - Size Met LN - 000</td>
</tr>
<tr>
<td>SSF3 - Extraperitoneal Ext - 000</td>
</tr>
</tbody>
</table>

---

**In Situ Neoplasm**

- **CIS definition**
  - Has not involved any structures in primary organ that
  - Allows tumor cells to spread to regional nodes or distant sites

- **CIS exception to stage group guidelines**
  - Clinical stage
    - pTis cN0 cM0 clinical stage 0
  - Pathologic stage
    - pTis cN0 cM0 pathologic stage 0

- **Caution for pathologic stage**
  - Cannot use CIS rule in isolation
  - Must also meet pathologic stage resection criteria
    - Avoids sampling error when resection might show invasion
    - Example: TURB

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Case 4 – Case Vignette

HISTORY: 57 year old white male with elevated PSA seen as outpatient for TRUS/Biopsy. Recent PSA is 5.62ng/ml. DRE without abnormality.

TRUS/BX: adenocarcinoma, Gleason 3+3=6, both right and left lobes with evidence of tumor on 12 core needle biopsy, 7 of 12 cores positive.

PLAN: Active surveillance. Repeat PSA in 6-12 months.

Case 4 – Answer & Rationale

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### Case 4 – Practice Case #4

<table>
<thead>
<tr>
<th>Practice Case #4</th>
<th>C61.9 – Prostate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8140/31 – Adenocarcinoma, NOS – Gleason 6 – Grade 1</td>
</tr>
</tbody>
</table>

#### Clinical TNM

<table>
<thead>
<tr>
<th>AJCC Stage Group</th>
<th>cT1cN0M0 (cT1cN0M0)</th>
<th>1</th>
</tr>
</thead>
</table>
- Based on needle bx for elevated PSA and no clinical evidence of tumor on DRE. (NOTE: Tumor found in one or both lobes by needle biopsy, but not palpable or reliably visible by imaging is classified as T1c)
- N based on no imaging done/not assessed
- MX not allowed so M0 unless otherwise indicated.
- Stage Group I (T1c, PSA<10, Gleason <7)

#### Pathologic TNM

<table>
<thead>
<tr>
<th>AJCC Stage Group</th>
<th>pT0N0M0</th>
<th>blank or 99</th>
</tr>
</thead>
</table>
- Pathologic staging is based on histologic review of radical prostatectomy specimen. TRUS/BX is not a prostatectomy - No prostatectomy performed for T1c neoplasm. No pathologic assessment criteria met for T or N or M - so all should be blank.
- X will be allowed but blank is best answer

#### SEER Summary Stage 2000

<table>
<thead>
<tr>
<th>Stage 2000</th>
<th>Localized</th>
</tr>
</thead>
</table>
- 1 Localized
- Tumor confined to prostate gland

#### SSFs

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>
- SSF1 - PSA Value - 056 (watch your decimal point)
- SSF2 - PSA Interpret - 010
- SSF7 - Gleason (BX) - 031
- SSF8 - Gleason Score BX - 006
- SSF9 - Gleason (radical) - 998
- SSF10 - Gleason Score (radical) - 998
- SSF11 - Tertiary (radical) - 998
- SSF12 - Cores Positive - 007
- SSF13 - Cores Exam - 012
## Case 5 – Case Vignette

**HISTORY:** 55 yr old white male, non-smoker, with elevated PSA and recurring prostatitis with minimal response to multiple course of antibiotics. DRE shows enlarged prostate with firm nodule in left lateral lobe of prostate. No other clinical symptoms or complaints. Admitted for treatment evaluation.

PSA: 10.3 ng/mL

CT CHEST: Negative

BONE SCAN: Abnormal uptake L4-L5 concerning for metastatic disease

PLAIN FILM XRAY L-SPINE: no evidence for osseous mets

TRUS-GUIDED BX PROSTATE: adenocarcinoma, Gleason 4+4=8, 9 of 12 cores positive

RADICAL RETROPUbic PROSTATECTOMY WITH LYMPH NODE SAMPLING: moderately differentiated adenocarcinoma Gleason 4+4=8 with microscopic involvement of bladder neck. Negative surgical resection margins. 3 inguinal lymph nodes sampled, all negative.

### Case 5 – Answer & Rationale

<table>
<thead>
<tr>
<th>Practice Case #5</th>
<th>C61.9 – Prostate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical TNM</strong></td>
<td><strong>Pathologic TNM</strong></td>
</tr>
<tr>
<td><strong>AICC Stage Group</strong></td>
<td><strong>AICC Stage Group</strong></td>
</tr>
<tr>
<td>cT2N0M0</td>
<td>pT3aN0M0</td>
</tr>
<tr>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td><strong>SSFs</strong></td>
<td><strong>SSFs</strong></td>
</tr>
<tr>
<td>SSF1 - PSA Value - 103 (watch your decimal point)</td>
<td>SSF2 - PSA Interpret - 010</td>
</tr>
<tr>
<td>SSF7 - Gleason (BX) - 044</td>
<td>SSF8 - Gleason Score BX - 008</td>
</tr>
<tr>
<td>SSF9 - Gleason (radical) - 044</td>
<td>SSF10 - Gleason Score (radical) - 008</td>
</tr>
</tbody>
</table>

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Case 6 – Case Vignette

HISTORY: 76 year old Hispanic male with multiple medical problems including diabetes, hypertension and COPD with slowly rising PSA seen now in active surveillance. TRUS/BX 2 Years Ago showed Gleason 3+4=7 adenocarcinoma of the prostate. Patient elected watchful waiting at that time. Most recent PSA is 8.2ng/ml. DRE without abnormality.

PLAN: Continue active surveillance. Repeat PSA in 6-12 months.

---

Case 6 – Answer & Rationale

<table>
<thead>
<tr>
<th>Pathologic TNM AJCC Stage Group</th>
<th>blank or 99</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathologic staging is based on histologic review of radical prostatectomy specimen. TRUS/BX is not a prostatectomy - No prostatectomy performed for T1c neoplasm. No pathologic assessment criteria met for T or N or M - so all should be blank.</td>
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Questions