Case 1

- 64 yo M w/ PMH HTN, HLD presents with difficulty urinating.
- No family history of malignancy
- 30 pack-year smoking history
- PSA 8, 5.3 year prior
- Multi-parametric MRI shows a PIRADS 5 lesion in the left anterior mid prostate
- MRI/US fusion Prostate biopsy: Gleason 4+5 (ISUP grade group 4) prostate adenocarcinoma in 6 of 12 cores from the left anterior mid-gland, 60-80% core involvement.
- Staging CT and bone scan negative

Question 1

What would be the next recommended treatment?

A. Radical prostatectomy with pelvic lymph node dissection
B. EBRT + ADT
C. EBRT + brachytherapy + ADT
D. Radical prostatectomy + EBRT + ADT

Case 1 Continued

- Patient underwent radical prostatectomy, PLND

- Final Path:
  - pT3aN0Mx, Gleason 4+5, adenocarcinoma, involving 60% of one side of the prostate; Negative margins
  - Repeat ultrasensitive PSA at 6 weeks undetectable, <0.01
Case 1 Continued

• Patient lost to follow up and returns nearly 3 years later with the following PSA values. He is asymptomatic:

<table>
<thead>
<tr>
<th>Month</th>
<th>PSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 year</td>
<td>1.0</td>
</tr>
<tr>
<td>2 year, 3 month</td>
<td>1.6</td>
</tr>
<tr>
<td>2 year, 6 month</td>
<td>1.8</td>
</tr>
<tr>
<td>2 year, 7 month</td>
<td>2.1</td>
</tr>
<tr>
<td>2 year, 8 month</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Question 2

What workup would you initiate next?

A. Gallium 68 PSMA PET/CT
B. F-18 fluciclovine (Axumin) PET/MRI
C. None, continue to monitor
D. NM bone scan
E. Abdominal/pelvic MRI
F. CT A/P

Case 1 Continued

1. Gallium 68 PSMA PET/CT
2. subcentimeter area of hypermetabolic uptake at the bed of the prostate. There is no evidence of distant metastatic disease.

Question 3

How would you proceed?

A. Observation
B. EBRT
C. ADT
D. EBRT + ADT
Case 2

- 75yo M presents following ground-level fall with R subtrochanteric femur fracture with underlying lytic/sclerotic lesion.
- CT imaging: sclerotic lesions involving the femur, and R iliac, along with prostatomegaly and bladder distention with diverticulae. No LAD.
- Hemiarthroplasty R hip:
  - Biopsy: metastatic adenocarcinoma of prostate origin.
  - PSA 434

Case 2 Continued

- NM bone scan c/w widespread osseous metastatic disease.
- Family History: not significant for malignancy
- 50 pack-year smoking history; quit 20 years ago

Question 1

What further workup would you recommend now?

A. None
B. CT chest
C. Tumor testing for DNA damage repair gene mutations
D. Tumor testing for MSI or dMMR
E. Germline genetic testing

Case 2 Continued

- IHC stains for MLH1, MSH2, MSH6, and PMS2 are intact.
- CT Chest shows evidence of sclerotic lesions consistent with metastases of the lower thoracic spine, and periseptal emphysema without evidence of pulmonary nodules.
In addition to urgent orthopedic stabilization, what initial therapy would you choose for this patient?

A. ADT + abiraterone with prednisone
B. ADT + docetaxel (6 cycles)
C. ADT + radium 223
D. LHRH agonist + antiandrogen
E. Immediate orthopedic stabilization of the R femur
F. Immediate radiation therapy to the R femur

Patient elected to receive ADT + docetaxel. PSA reached 12.3 at 3 months and 1.3 at 6 months.

He remains on maintenance ADT

4 years later, PSA increases 24.7

Patient has new back pain.

Would you offer immediate palliative RT prior to systemic therapy?

A. Yes
B. No

You decide to offer palliative XRT. What therapy would you offer next, in addition to palliative XRT?

A. Add abiraterone + prednisone
B. Radium 223 + abiraterone + prednisone
C. Enzalutamide
D. Sipuleucel-T
E. Cabazitaxel
F. Radium 223
Case 3

- 68yo M w/ gross hematuria found to have a 5 mm erythematous lesion near the bladder neck on cystoscopy.
- TURBT with single dose intravesical Gemcitabine is performed, which is significant for urothelial carcinoma in situ (CIS). The initial biopsy sample does not include identifiable muscularis propria.
- Baseline Cr 0.82; Hb 14.4
- CT urogram negative

Question 1

What is the best next step?
A. Induction intravesical gemcitabine
B. Induction intravesical mitomycin
C. Induction intravesical BCG
D. MRI abdomen/pelvis
E. Restaging TURBT
F. Repeat cystoscopy in 6-12 months

Case 3 Continued

- Restaging TURBT
- 1 cm pT1 high grade urothelial carcinoma
- Muscularis propria is present and not involved
- + lymphovascular invasion

Patient returns for 3 week follow-up. Next step:
A. Induction intravesical gemcitabine
B. Induction intravesical mitomycin
C. MRI abdomen/pelvis
D. Radical cystectomy
E. Repeat cystoscopy in 6-12 months
F. Induction intravesical BCG
Case 3 Continued

- Patient received induction BCG for 6 weeks followed by maintenance BCG therapy.
- 4 years later, urinalysis is significant for microscopic hematuria, and cystoscopy reveals a 4cm sessile bladder mass.
- TURBT reveals high grade 4 cm urothelial carcinoma with invasion into the muscularis propria (T2).
- CT chest/abdomen/pelvis without evidence of distant mets.
- GFR >60, Hb 13.9

Question 3

Next Step:
A. Repeat TURBT
B. Radical cystectomy
C. Cisplatin-based neoadjuvant chemotherapy
D. Pembrolizumab
E. RT/chemo

Case 3 Continued

Received 3 cycles of dose-dense MVAC, followed by radical cystectomy with BPLND.

Pathology: invasive high-grade urothelial carcinoma with no small cell component, pT2aN2Mx disease.

Imaging post-operatively with no evidence of metastasis.

Question 4

How would you treat this patient?
A. Adjuvant pelvic radiation
B. Adjuvant chemotherapy
C. Observation with imaging every 12 weeks
D. Clinical trial of immune checkpoint inhibitor
Case 5

A 58yo M w/ PMH morbid obesity presents with worsening L sided abdominal pain.

CT imaging significant for L sided Renal mass 5.4 x 6.2 x 5.5 cm. One osseous metastatic lesion in the R 5th rib and one lytic lesion in the L1 vertebrae

GFR >60, Calcium 8.7, CBC WNL, KPS 90%

Question 1
How would you proceed?

A. CT-guided biopsy of rib lesion
B. Cytoreductive Nephrectomy
C. CT-guided biopsy of renal mass

Case 4

Patient receives biopsy of rib lesion:

- Positive for metastatic carcinoma, clear cell histology

Question 2
Which choice of systemic therapy would you use to treat this patient with IMDC intermediate risk mRCC?

A. Bevacizumab + Atezolizumab
B. VEGFR-TKI
C. Ipilimumab + nivolumab
D. Pembrolizumab + axitinib
E. Avelumab + axitinib
F. Other
Case 4
The patient receives treatment with nivolumab + ipilimumab.

He presents at 1 month follow-up with diarrhea occurring roughly every 2-3 hours throughout the day. He required a brief hospitalization one week ago due dehydration and hypokalemia. He was started on 200mg prednisone per day and discharged on a 7 day course.

Case 4 continued
Patient receives a short steroid taper, and his symptoms improve. Nivolumab + Ipilimumab is discontinued due to grade 3 toxicity, and he is started on Pazopanib.

Repeat scans at 3 months show partial response to therapy.

At 6 month follow-up, repeat CT shows increase in the size of the L4 lesion, and new lytic lesions involving T10 and T11 vertebrae, and a new 1.5cm pulmonary nodule in the RUL.

KPS 80%, GFR >60

Question 3
How would you proceed?
A. Stop Nivo + Ipi and switch to VEGFR-TKI
B. Stop Ipilimumab, continue Nivolumab
C. Continue Nivo + Ipi
D. Hold Nivo + Ipi and re-evaluate

Question 4
What treatment would you offer next?
A. Cabozantinib
B. Bevacizumab
C. High-dose IL-2
D. Axitinib
E. Lenvatinib + everolimus
F. Everolimus
G. Other
Case 5

29yo M presents with non-painful right testicular enlargement for 4 weeks.
Scrotal US shows a large right heterogeneous testicular mass
AFP 225, beta hCG 43, LDH 425
Family History: noncontributory; Social History: nonsmoker, works as a firefighter

Right radical orchiectomy demonstrates a 7.5cm mixed nonseminomatous germ cell tumor (NSGCT)
- pT1 NSGCT, 85% teratoma and 15% embryonal carcinoma
- lymphovascular invasion
Post-op CT A/P shows sub-centimeter mesenteric and L paraaortic LAD.
Tumor markers normalize 6 weeks post-op

Question 1
What is the next best step?

A. Surveillance
B. BEP for one cycle
C. Nerve-sparing RPLND

Patient elects to undergo active surveillance
Presents for follow-up after 2 years with increasing AFP to 190 ng/mL
CT C/A/P shows 4.5 x 4.0 cm enlarged aorto-caval lymph node, concerning for recurrence of testicular cancer. No evidence of pulmonary disease
**Question 2**

How would you treat next?

A. RPLND
B. Chemotherapy with Bleomycin/Etoposide/cisplatin
C. Chemotherapy with Etoposide/cisplatin
D. Chemotherapy with Etoposide/ifosfamide/cisplatin

**Case 5 continued**

- Patient started on EP x 4 cycles
- Experienced incomplete response with persistently elevated AFP level of 147ng/mL

---

**Question 3**

How would you treat next?

A. Surgical resection of all residual masses
B. Surveillance
C. Immune checkpoint inhibitor
D. Additional 2 cycles etoposide/cisplatin
E. Additional 2 cycles of paclitaxel/ifosfamide/cisplatin
F. High dose chemo -> autologous stem cell transplant

**Case 6**

- 80yo M w/ gross hematuria
- Cystoscopy negative, but urinary cytology positive
- CT urogram shows large right renal pelvis filling defect
- Ureteroscopy shows large right renal pelvis mass
- Biopsy: high-grade urothelial carcinoma
- PMH: HTN
- Social history: nonsmoker
Question 1
What is the next best step?

A. Neoadjuvant cisplatin-based chemotherapy
B. Nephroureterectomy
C. Nephroureterectomy + radical cystectomy
D. Observation

Case 6 continued
- Patient underwent R nephroureterectomy
- Pathology: high-grade urothelial carcinoma with invasion into peri-renal adipose tissue with ureteral CIS
  - pT3NxMx
  - negative surgical margins
- Pt has recovered well from surgery, GFR >60, normal CBC

Question 2
What further treatment would you recommend?

A. Adjuvant Immune checkpoint inhibitor
B. Adjuvant Gemcitabine + cisplatin
C. Adjuvant Gemcitabine + carboplatin
D. Adjuvant Dose-dense MVAC
E. Observation