Genitourinary Cancers: A Medical Oncology Perspective

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Anatomy of the Genitourinary System
Multidisciplinary Approach

Urologist
Pathologist
Radiation Oncologist
Medical Oncologist
Medical Oncology: Types of Cancer Treatments

• **Chemotherapy:** Medicines that are ‘cytotoxic’, results in direct cell death. Given as a pill or infusion. Associated with multiple side effects including nausea, vomiting, and suppression of the immune system.

• **Immunotherapy:** Check point inhibitors are new medicines that use your own immune system cells to recognize the cancer and then kill the cancer cells. Given as an infusion.

• **Targeted therapy:** Medicines that stop cancer growth by targeting specific pathways or mutations which are driving the cancer. Given as a pill or infusion.
Bladder Cancer
Overview

- Average age at diagnosis is 73 years

- 4th most common cancer in men, less common in women.

- Smokers have 3X risk compared to non smokers

- Associated with occupational exposures: metal workers, painters, rubber, miners, cement workers, textile and electrical workers, leather workers
Non Muscle Invasive (Low Risk) vs Muscle Invasive (High Risk)

Ref: Harvard Health Online
Role of Chemotherapy Before Surgery

- Early treatment of micrometastases
- Possible tumor downstaging to a less complicated surgery
- Giving chemo after surgery can be delayed due to multiple postoperative complications
- Randomized trials and meta analyses show survival benefit for cisplatin based chemo before surgery for muscle-invasive bladder cancer.
Treatment of Metastatic Disease (Stage IV)

- If patient is active with good kidney function, chemo with cisplatin is recommended.

- Many patients are not able to receive cisplatin, usually due to decreased kidney function or poor performance status.

- Chemo associated with multiple side effects and only modest response rates.

- Immunotherapy is now approved for patients ineligible for chemo!
Preferred Chemotherapy Regimens

- Gemcitabine and cisplatin
- DDMVAC (dose dense methotrexate, vinblastine, doxorubicin, and cisplatin with growth factor support)
## Immunotherapy Options: 5 New Drugs Approved in 2017!

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5-Year Relative Survival Rates by Stage for Bladder Cancer

- Stage 0: 98%
- Stage I: 88%
- Stage II: 63%
- Stage III: 46%
- Stage IV: 15%

Ref: National Cancer Institute’s SEER database
Renal Cell Carcinoma
Hello Kidney
Overview

- Average age at diagnosis is 74 years old.

- 50% present with localized disease, 25% with locally advanced disease, 25% to 30% with metastatic disease.

- Sites of metastases: lung, lymph nodes, bone, central nervous system.
Role of Medical Oncology in RCC

➢ Consideration of targeted therapy with sunitinib after surgery for high risk disease

➢ Targeted therapy and immunotherapy for metastatic and relapsed disease

➢ Poor response with chemotherapy (except for some subtypes)
# Targeted Therapies for RCC

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Immunotherapy for RCC

- 1st Line: Ipilimumab + Nivolumab

- 2nd Line: Nivolumab
5-Year Survival Rates by Stage for RCC

- Stage I: 81%
- Stage II: 74%
- Stage III: 53%
- Stage IV: 8%

Ref: National Cancer Institute’s SEER database
We will always care for San Antonio. We will always educate healers. We will always search for answers.