

Bladder Cancer

Bladder Cancer

Clinical Risk Factors

Clinical Characteristics

Men > women

Infections

UTIs

Schistosoma

Exposures

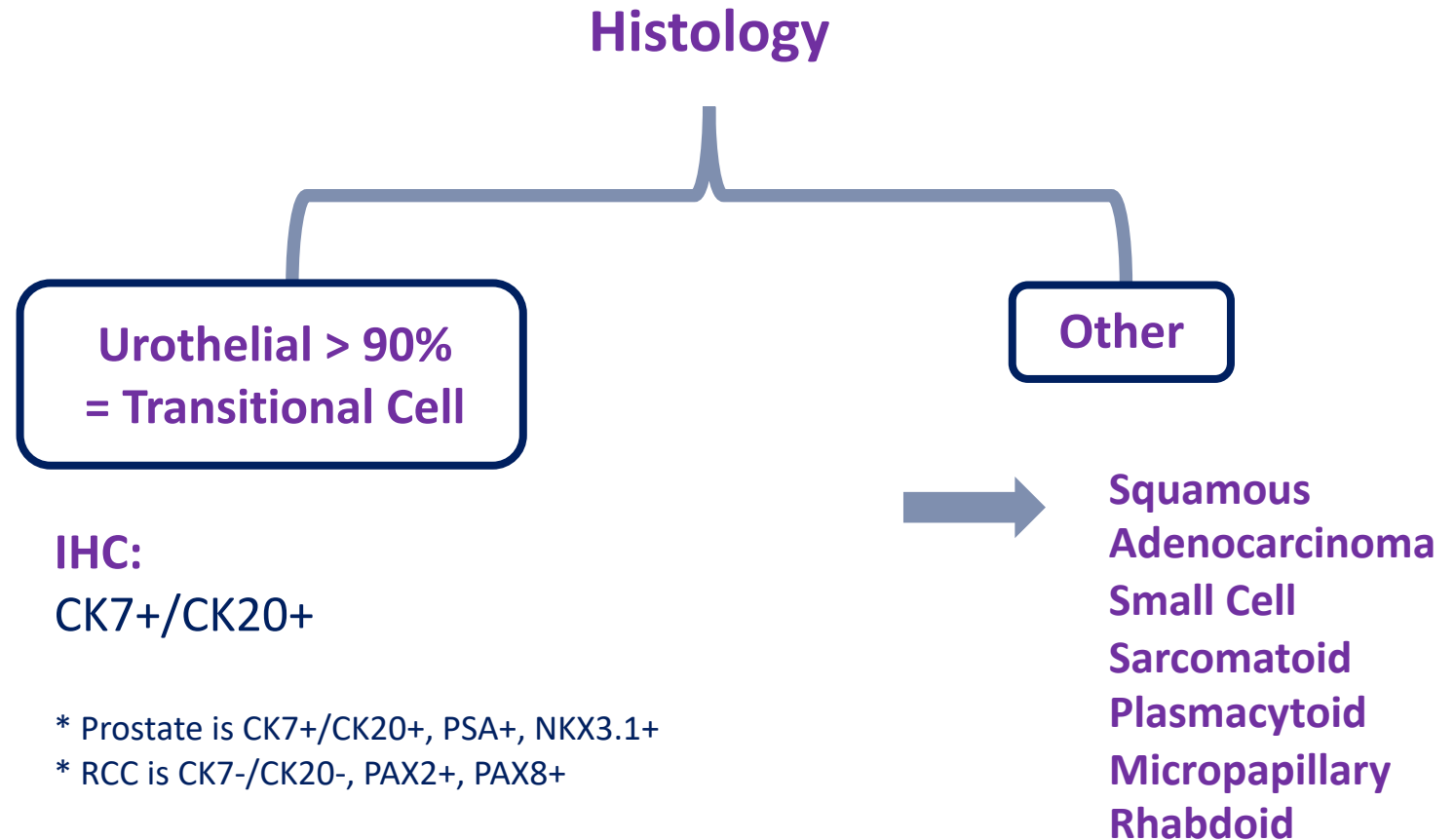
Smoking

Chemicals/Dyes

Herbs (aristolochia fangchi)

Genetic Risk Factors

HNPCC/Lynch



Bladder Cancer Staging

Staging

T

Ta = non-invasive carcinoma

Tis = carcinoma in situ

T1 = lamina propria, muscularis mucosa

T2 = muscularis propria = MUSCLE INVASIVE

T3 = perivesical

T4 = invades local organs

N

N1 = 1 pelvic LN

N2 = multiple pelvic LN

N3 = common iliac LN

Stages

IIIA = N1

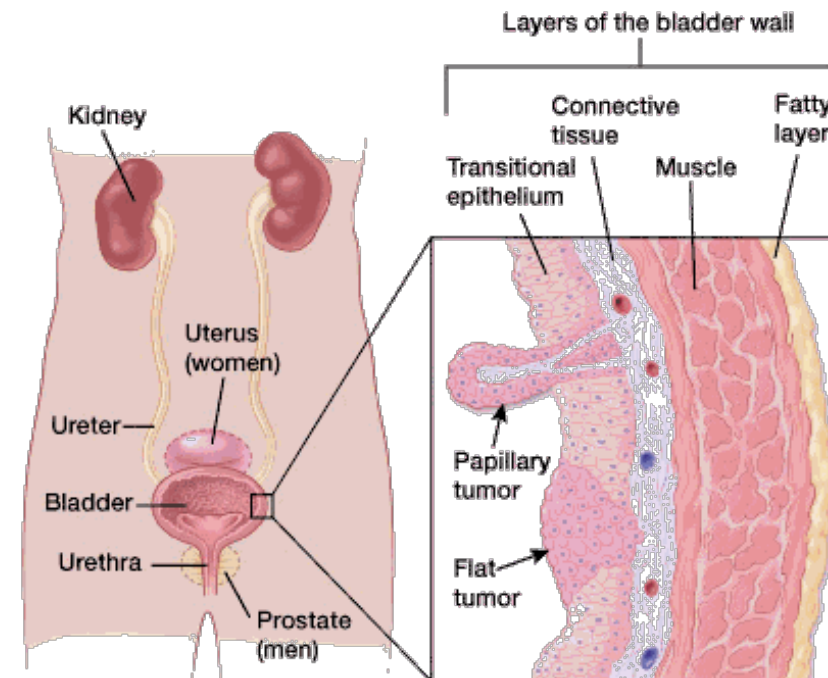
IIIB = N2-N3

IV = T4b, any N

Treatment

**Non-Muscle Invasive
= NMIBC**

**Muscle Invasive
= MIBC**



Bladder Cancer: NMIBC Treatment

Non-Muscle Invasive Bladder Cancer
Ta, Tis, T1 = NMIBC



TURBT

Transurethral Resection of Bladder Tumor

need muscle on TURBT to determine if muscle invasion present

Low Risk Adjuvant Tx

High Risk Adjuvant Tx

* Ta (non-invasive) low-grade

Intravesicular Chemotherapy

Chemotherapy

Single dose gemcitabine, mitomycin, or epirubicin within 24H of TURBT

Intravesicular Immunotherapy

Immunotherapy

BCG = Bacillus Calmette-Guerin
Mycobacterium Bovis Vaccine

Induction +/- Maintenance BCG

3 weeks post-TURBT → weekly x 6
1-3Y maintenance

Bladder Cancer: MIBC Treatment

Muscle Invasive Bladder Cancer
T2 + = MIBC



Neoadjuvant Chemo + Cystectomy

* can consider chemoRT (for bladder sparing)

Platinum Eligible: Preferred
NEOADJUVANT TX

Platinum Ineligible: Not Preferred
ADJUVANT TX

* Renal function is a large contributor to platinum eligibility

Gemcitabine/Cisplatin

OR

MVAC = (M) Methotrexate
(V) Vinblastine
(A) Adriamycin
(C) Cisplatin

Pembrolizumab (PDL1+)

OR

Atezolizumab (PDL1+)

Bladder Cancer: MIBC Treatment

Muscle Invasive Bladder Cancer
T2 + = MIBC



Stage III: ChemoRT

neoadjuvant chemo → Cystectomy
or ChemoRT

ChemoRT

Cisplatin/5FU

Cisplatin/taxol

5FU/Mitomycin

Bladder Cancer: Metastatic Treatment

Platinum Eligible

Platinum Ineligible

* Renal function is a large contributor to platinum eligibility

Gemcitabine/Cisplatin
+ maintenance avelumab

Pembrolizumab (PDL1+)

Atezolizumab (PDL1+)

* If PDL1 neg → Gem/Carbo

2nd-3rd Line/POD:

Nivolumab
Durvalumab
Enfortumab
Erdafitinib (FGFR2/3 mutated)
Sacituzumab

Non-Transitional Cell Bladder Cancer: Treatment

Squamous Cell Carcinoma

Cystectomy +/- adjuvant RT

Small Cell Carcinoma

Cisplatin/Etoposide + Cystectomy

Adenocarcinoma

Cystectomy +/- adjuvant RT

Urachal Carcinoma

Cystectomy + resection urachus + LN dissection

* Urachal ligament connects umbilicus and bladder
Usually disappears prior to birth

Bladder Cancer Reference Handout

Bladder Cancer Dx & Staging

Urothelial Carcinoma

Transitional Cell (90% +)

Non-Transitional Cell

IHC:

CK7+/CK20+

* Prostate is CK7+/CK20+, PSA+, NKX3.1+

* RCC is CK7-/CK20-, PAX2+, PAX8+

Squamous

Adenocarcinoma

Small Cell

Sarcomatoid

Plasmacytoid

Micropapillary

Rhabdoid

Staging

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Transitional Cell Cancer Tx

Non-Muscle Invasive Bladder Cancer
Ta, Tis, T1 = NMIBC

TURBT &

Low Risk Adjuvant Tx

High Risk Adjuvant Tx

Intravesicular Chemotherapy

Gemcitabine, mitomycin, epirubicin
x1 within 24H of TURBT

Intravesicular Immunotherapy

BCG Induction +/- Maintenance
3 weeks post-TURBT → weekly x 6
1-3Y maintenance

Muscle Invasive Bladder Cancer
T2+ = MIBC

CYSTECTOMY &

Platinum Eligible: Neo Tx

Platinum Ineligible: Adjuvant Tx

Gemcitabine/Cisplatin

MVAC = (M) Methotrexate
(V) Vinblastine
(A) Adriamycin
(C) Cisplatin

Pembrolizumab (PDL1+)

Atezolizumab (PDL1+)

Metastatic Bladder Cancer

Platinum Eligible Tx

Platinum Ineligible Tx

Gemcitabine/Cisplatin
+ maintenance avelumab

Pembrolizumab (PDL1+)

Atezolizumab (PDL1+)

2nd Line/POD: Nivolumab, Durvalumab
Enfortumab
Erdafitinib (FGFR2/3 mutated)

* If PDL1-: Gem/Carbo