Chemotherapy Treatment Algorithms for Urology Cancer

- Chemoradiation for bladder cancer;

- Chemotherapy algorithm for non TCC bladder cancer – Squamous cell carcinoma;

- Chemotherapy Algorithm for Non-Transitional Cell Bladder Cancer – Primary sarcoma or carcino-sarcoma of the bladder;

- Chemotherapy Algorithm for Non-Transitional Cell Bladder Cancer – small cell carcinoma of the bladder;

- Chemotherapy algorithm for non-transitional cell bladder cancer – adenocarcinoma or urachal cancer of the bladder;

- Chemotherapy algorithm for TCC bladder cancer;

- Chemotherapy algorithm for upper urinary tract TCC;

- Systemic treatment algorithm for renal cell cancer;

- Treatment algorithm for testicular germ cell tumours.

- Treatment algorithm for prostate cancer

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Chemo Radiation Algorithm for Transitional Cell Carcinoma of the Urinary Bladder

T2-T4No TCC Performance status 0-2, EGFR > 25mls per minute, fit for radical radiotherapy and for chemotherapy:

- Concurrent 5-FU and Mitomycin C fraction 1-4 of radiotherapy

Chemotherapy Algorithm for Non-Transitional Cell Bladder Cancer

**Adenocarcinoma or urachal cancer of the urinary bladder**

T2-T4 potentially resectable tumours:

- Neoadjuvant chemotherapy is not evidence based and should not be given

Resected T2-T4N+ or T4No:

- Minimal data in support of adjuvant treatment

**Metastatic disease, performance status 0-1, EGFR > 50 mls/min and LVEF > 45 mls:**

- 3-6 cycles of Epirubicin-Cisplatin and Capecitabine if fit, performance status 0-1, EGFR > 50 mls/min and LVEF > 45 mls. Reassess after 3 cycles and if responding continue to 6 cycles

**Metastatic disease with performance status 2 or EGFR < 50 mls/min or LVEF < 45 mls/min, or other comorbidities making platinum ineligible but still fit for chemotherapy:**

- 3 cycles of Gemcitabine-Carboplatin 21 day cycle, reassess after 3 cycles and if responding continue to 6 cycles
Chemotherapy Algorithm for Non-Transitional Cell Bladder Cancer

Small cell carcinoma of the bladder

NB transitional cell carcinoma with small cell differentiation should be treated according to TCC algorithm

Limited stage disease post cystectomy or local excision, performance status 0-1, EGFR > 50mls/min, fit for cisplatin:

- 4-6 cycles of Etoposide and Cisplatin adjuvant chemotherapy

Limited stage disease post cystectomy or local excision, performance status 2 or EGFR < 50mls/min, or unfit for Cisplatin due to comorbidities:

- 4-6 cycles of Etoposide and Carboplatin adjuvant chemotherapy

Extensive or metastatic disease:

- Follow algorithm above for choice of regime dependent on comorbidities, performance status and EGFR. For 3 cycles, reassess and if response continue to 6 cycles

Recurrent disease:

- If > 6 months from initial treatment follow algorithm above and re-treat

- If < 6 months from initial treatment and patient fit for further chemotherapy, consider second-line chemotherapy as per small cell lung protocol as there is no evidence based choice of second-line chemotherapy in metastatic small cell carcinoma of the bladder

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Chemotherapy Algorithm for Non-Transitional Cell Bladder Cancer

Squamous cell carcinoma of the bladder

NB Transitional cell carcinoma with squamous differentiation should be treated according to TCC algorithm

T2-T4 potentially resectable tumours:

- Neoadjuvant chemotherapy is not evidence based and should not be given

Resected T2-T4N+ or T4No:

- Minimal data in support of adjuvant treatment

Metastatic disease, performance status 0-1, EGFR > 50 mls/min:

- 3-6 cycles of Cisplatin and continuous infusional 5FU or Cisplatin and Capecitabine
- Reassess after 3 cycles and if responding continue to 6 cycles

Metastatic disease, performance status 2, or EGFR < 50 mls/min or other comorbidities rendering ineligible for Cisplatin:

- 3-6 cycles of Mitomycin C and continuous infusional 5FU or Mitomycin C and Capecitabine. Reassess after 3 cycles and if responding continue to 6 cycles

Recurrent disease:

- If > 6 months from initial treatment follow algorithm above and re-treat
- If < 6 months from initial treatment and patient fit for further chemotherapy, there are no regimes with strong supportive data

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Chemotherapy Algorithm for Non-Transitional Cell Bladder Cancer

**Primary sarcoma or carcino-sarcoma of the urinary bladder**

*NB* Transitional cell carcinoma with sarcomatoid features should be treated according to TCC algorithm

- For all stages of refer to algorithm for treatment of sarcoma
Transitional cell carcinoma—first line chemotherapy

T2-T3NoMo
Fit for radical radiotherapy or radical cystectomy
- Performance status 0-1, EGFR > 50 mls/min
  - 3 cycles of neoadjuvant chemotherapy
  - Gemcitabine-Cisplatin

Post cystectomy
adverse pathology e.g. pT3/4, or N+
- Performance status 0-1, EGFR > 50 mls/min
  - In selected patients ONLY, on case by case discussion
  - 4 cycles of adjuvant chemotherapy
  - Gemcitabine-Cisplatin x 21 day cycle

T2-T4 N+ or M1
- Performance status 0-1, EGFR > 50 mls/min
- Performance status 2
- EGFR 25-50 mls/min
- Other comorbidities rendering unsuitable for Cisplatin
- 3-6 cycles of Gemcitabine-Cisplatin x 21 day cycle
- Interval CT after 3 cycles, if responding continue to 6 cycles

Second line chemotherapy for transitional cell carcinoma
- If > 6 months since last treatment, re-challenge with same regime and follow algorithm above for EGFR, performance status and number of cycles
- If < 6 months consider second-line chemotherapy with weekly Taxol if performance status 0-1
- Reassess after 12 weeks of treatment
- Consider clinical trial

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Chemotherapy Algorithm for Upper Urinary Tract Transitional Cell Carcinoma

T2-T4 No or N+ Mo apparently resectable tumour pre radical nephroureterectomy:

- No evidence for neoadjuvant chemotherapy. Neoadjuvant chemotherapy should not be given

Completely resected T2-T4NoMo, or T1-T4N+ Mo post radical nephroureterectomy:

- Consider adjuvant chemotherapy versus surveillance as part of clinical study e.g. the POUT trial
- Follow bladder TCC algorithm for choice of regimen
- For selected patients outside of a clinical study, adjuvant chemotherapy may be considered
- Follow bladder TCC algorithm for treatment of choice

Non-resectable locally advanced and/or node positive or metastatic disease:

- Follow bladder TCC algorithm

Recurrent disease:

- Follow bladder TCC second-line algorithm
Systemic Treatment Algorithm for Renal Cell Cancer

**ADJUVANT THERAPY**
No standard treatment, consider entry into clinical trial

**LOCALLY ADVANCED / RECURRENT DISEASE**
Treat as metastatic disease or consider metastatectomy

**METASTATIC DISEASE**

**First Line:**
- Sunitinib
- Entry into trial
- Pazopanib

**2nd line options:**
Axitinib  Everolimus*

**3rd line options:**
- Consider entry into clinical trial (none currently open locally)
- No standard treatments
- Consider referral for high dose Interleukin 2

*Contraindication to 2nd line axitinib therapy OR excessive toxicity to axitinib necessitating discontinuation of axitinib within 3 months of starting therapy and at which time there is no evidence of disease progression

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Treatment Algorithm Testicular Germ Cell Tumours

Abdominal Orchiectomy

Stage I Seminoma
- Low risk: Surveillance or SA Carboplatin

Stage 1 Non-Seminoma
- Surveillance

All others
- Prognostic stage
  - Chemotherapy (refer to Supra Network MDT guidelines)
Chemotherapy Treatment Algorithm for Prostate Cancer

Newly Diagnosed Metastatic Prostate Carcinoma

First Line Chemotherapy
Docetaxel + Prednisolone 6 cycles

Metastatic Castrate Resistant Prostate Carcinoma

First Line Chemotherapy
Docetaxel + Prednisolone 6 – 10 cycles

Alternative
Mitozantrone + Prednisolone 6 cycles
Clinical Trial

Second Line Chemotherapy
Cabazitaxel + Prednisolone up to 10 cycles
Clinical Trial

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