Bladder Cancer in Primary Care

Dr Penny Kehagioglou
Consultant Clinical Oncologist

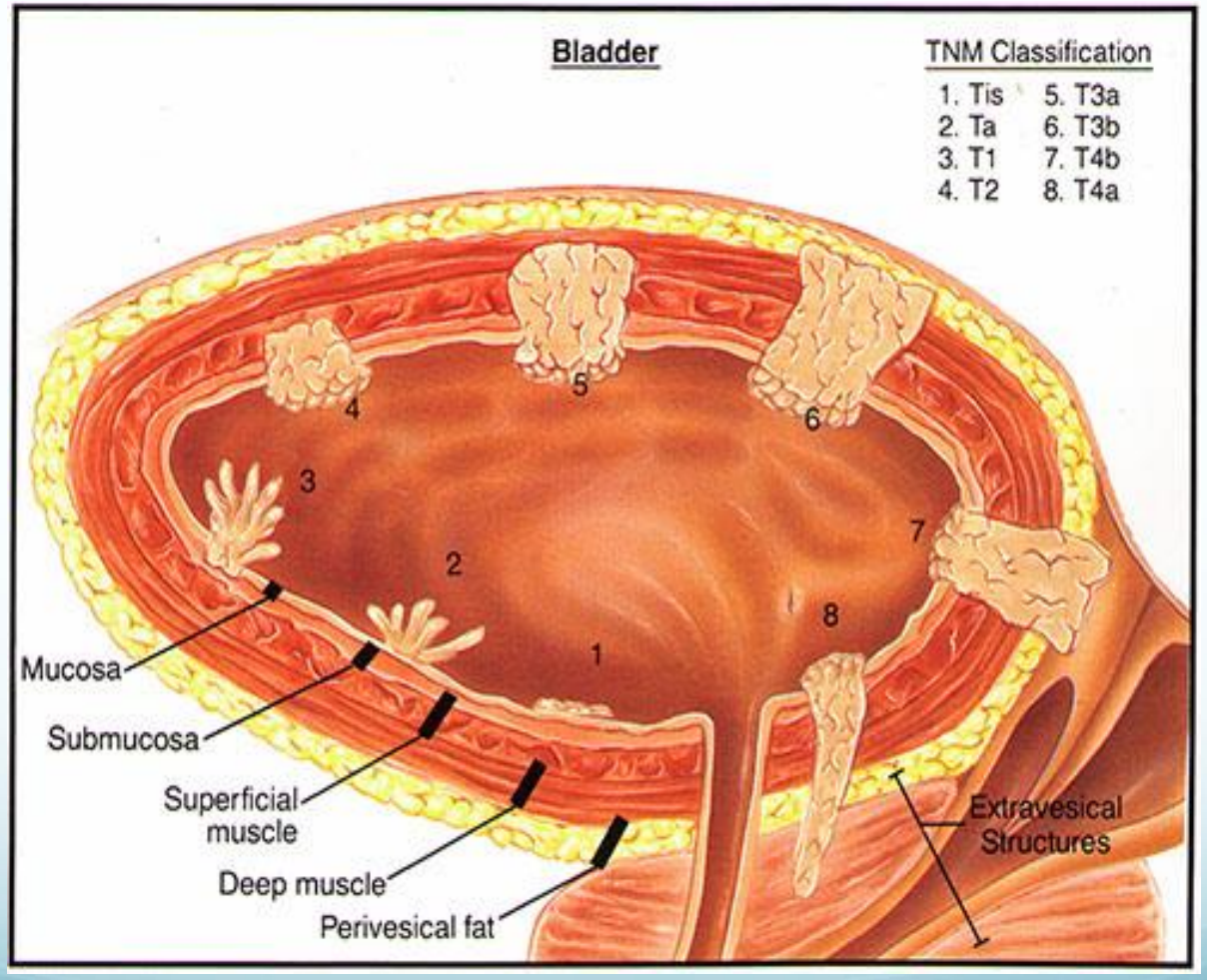
Objectives

- Patient presentation in primary care
- Investigating bladder cancer
- Management of bladder cancer
- Differential diagnoses

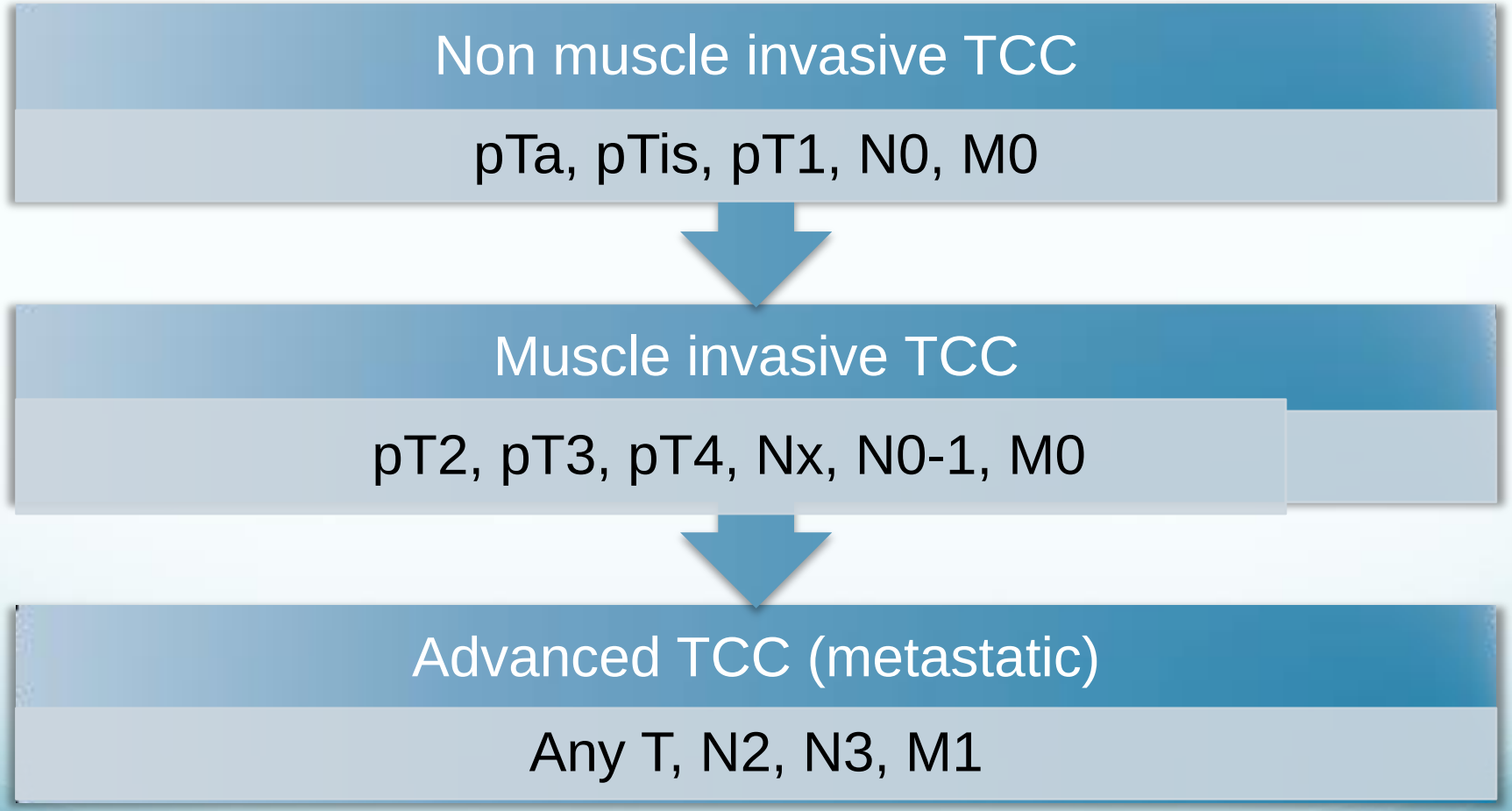
Case Based discussion

"I'm still not sure HOW it happened. One minute, we were bouncing ideas off each other, and the next thing I knew, we were using furniture instead."

Anatomy Reminder



Classification of Bladder Cancer



Case 1

- 73y old male, ex-smoker, ex-cloth factory worker, complains of dysuria and pelvic pain at times, often difficult to empty bladder in the mornings and nocturia (3-4 times), known high BP on diuretics, diabetic on metformin.

- Question 1: Your initial approach and thoughts

- Question 2: What are his risk factors

- Question 3: Differential diagnosis

Question 1

- Lower urinary tract symptoms (LUTS) such as urgency, increased urinary frequency and bladder pain may be associated with the presence of carcinoma *in situ (CIS).*

- Asymptomatic non-visible hematuria is generally the first sign of bladder cancer and is the most common finding in NMIBC.

A key issue is the workup following presentation of hematuria or LUTS

Question 1 (cont..)

- Simple Tests first
- Clinical exam (PR!!)
- Renal function
- Liver function
- FBC and bone biochemistry
- PSA!!
- Urine dip and MSU

There is currently no evidence to support screening for bladder cancer without a clinical reason.

Urine Cytology

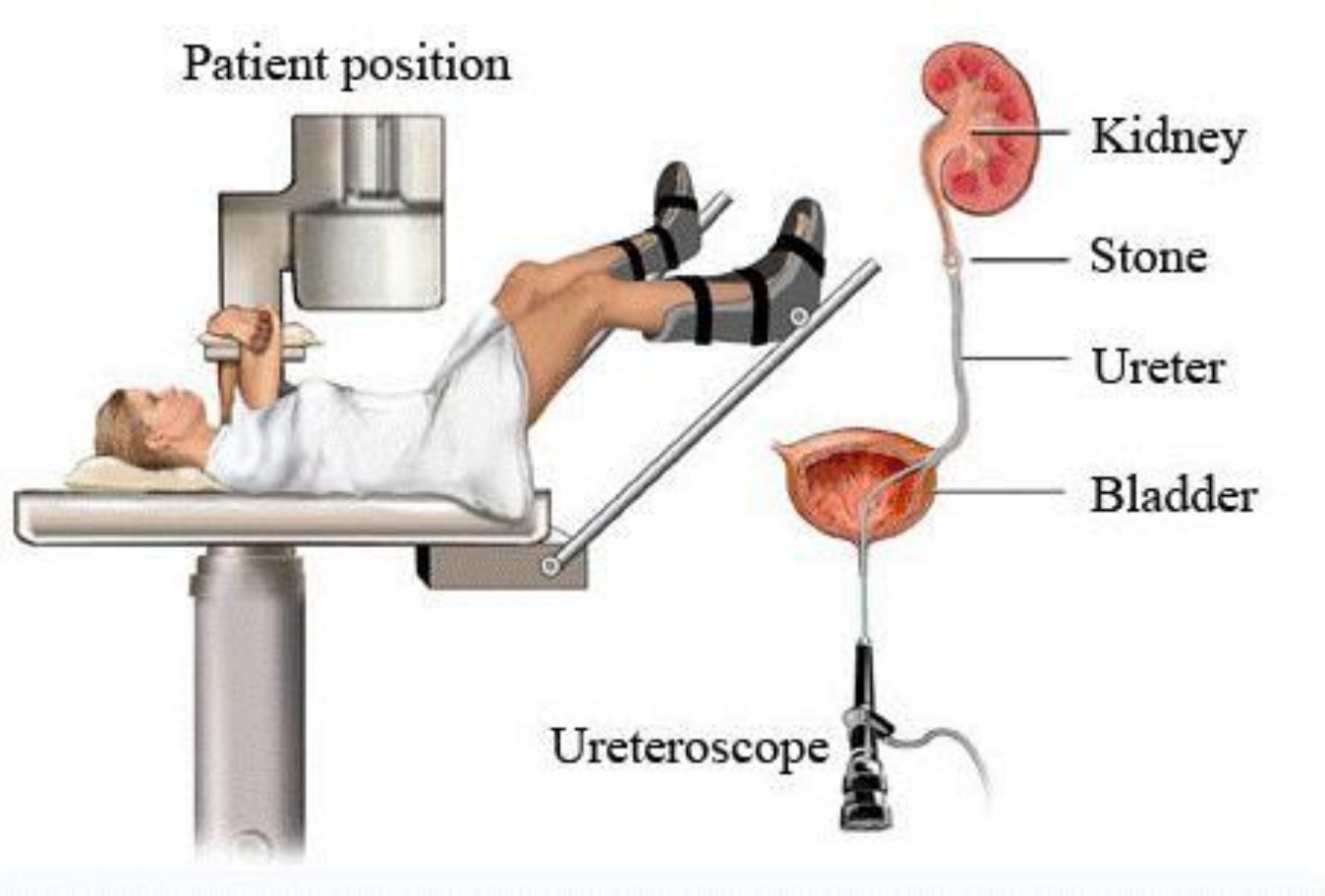
- The diagnosis of a high-grade tumour or CIS can be made following cytological analysis of urine.
- Highly specific (>90%).
- Low sensitivity especially for low-grade NMIBC in patients presenting with non-visible haematuria.
- Urine cytology should NOT be used as a diagnostic test in isolation.

Urinary molecular biomarker tests not available for testing yet

Abdominal Ultrasound

- Trans-abdominal ultrasound (US) is a useful tool for investigation of haematuria. It allows detection of renal masses, intraluminal bladder masses and hydronephrosis.

Cystoscopy, Ureteroscopy and Biopsy



Bladder Biopsy

- In patients with positive urine cytology but no visible tumour, biopsies from the trigone, bladder dome and bladder walls should be performed.

- Sufficient muscle tissue from biopsies is required for correct assignment of a T category.

CT Urography

- Is now the investigation of choice compared with intravenous (IV) urography.
- The incidence of concomitant upper urinary tract TCC in patients with trigonal tumours is 7.5%.
- Used to detect filling defects within the kidneys and ureters, which may indicate the presence of a tumour within the ureter.

Question 2

- Smoking
- Occupational
- Previous radiotherapy
- Age and male sex
- ?Diabetes
- Chronic infection/inflammation

Lewis J. et al Diabetes Care, 34(4); 2011: 916-922

Pioglitazone use >2y is associated with increased risk of bladder cancer

95% of cancers detected were at early stage

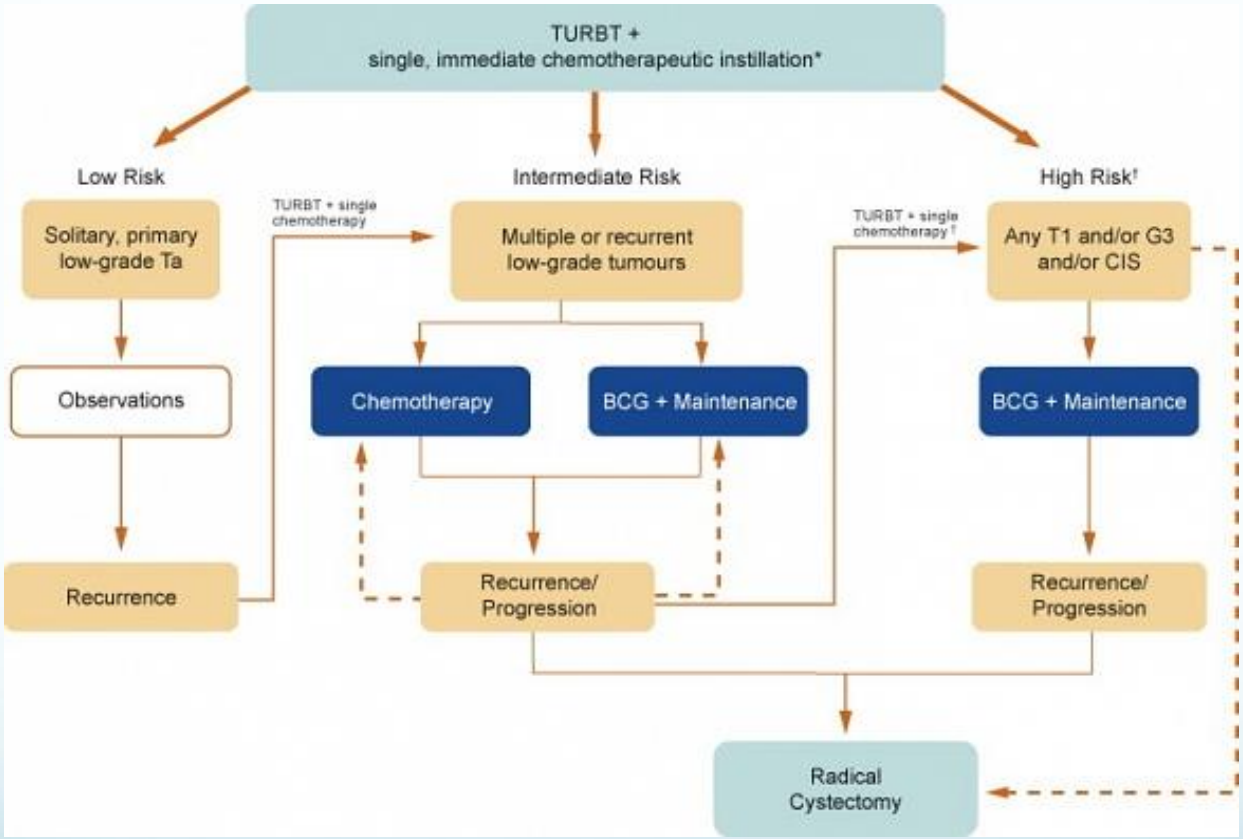
Question 3

- UTI (diabetes)
- Bladder cancer (risk factors, symptoms)
- Prostatitis (age, symptoms)
- Prostate cancer (age, symptoms, ?family history)
- Kidney stones (less likely)

Case 1 outcome

- Biochemistry normal
- Urine dip + for blood
- Urine cytology –
- MSU –
- U/S abdomen = ?bladder mass
- Flexible cystoscopy and biopsy = NMIBC

NMIBC Management



Side effects of TURBT

- Bleeding
- Infection
- Bladder wall perforation
- Clot retention
- Local recurrence (depends on surgical technique and experience!)

Single MMC installation

- Immediately after TUR (and ideally within 6h) reduced the risk of local recurrence by 39% in all risk groups.
- Contraindicated in proven or suspected bladder perforation
- Side effects: dysuria, frequency, haematuria, allergic skin reaction

NMIBC follow up

- Cystoscopy at 3m post TUR and if no recurrence, at 9m and then yearly for 5y.
- Tumour status at 3m = strongest predictor or recurrence.
- If no recurrence at 5y, 98% remain tumour-free.

BCG treatment side-effects

- Haematuria
- Cystitis
- Fever, malaise, skin rash
- Bladder irritative symptoms when repeated (defer or dose reduce if persist).
- Granulomatous prostatitis (if symptomatic, ciprofloxacin and stop).
- Epididymitis (ciprofloxacin).
- Polyarthritis (steroids and stop).
- Miliary BCG infection and sepsis (rare, anti-TB chemo and stop).

Case 2

- 78y old man, non-smoker, ex-accountant, previous prostate cancer treated with pelvic radiotherapy 2y ago and recent PSA <0.1, presents with diarrhoea, occasional blood in urine and cystitis-type of symptoms, bowel cancer in family.
- Question 1: Differential diagnosis
- Question 2: Your approach

Question 1

- UTI
- Recent travel?
- Recurrence of prostate cancer
- Bowel cancer
- Late effects of pelvic radiotherapy

- Bladder cancer?

Question 2

- History is key here
- Onset, severity, in relation to pelvic RT, weight loss, night sweats, bone pain?, tenesmus
- Severe acute pelvic RT effects predict late effect occurrence (dysuria, frequency, haematuria, incontinence, diarrhoea)

Question 2 (cont..)

- Bloods normal
- Urine dip + for blood and MSU –
- Stool culture –
- Abdominal U/S = bladder wall thickening
- Cystoscopy and biopsy = Muscle invasive Bladder cancer (G3,T2N0M0)

Question 2 (cont..)

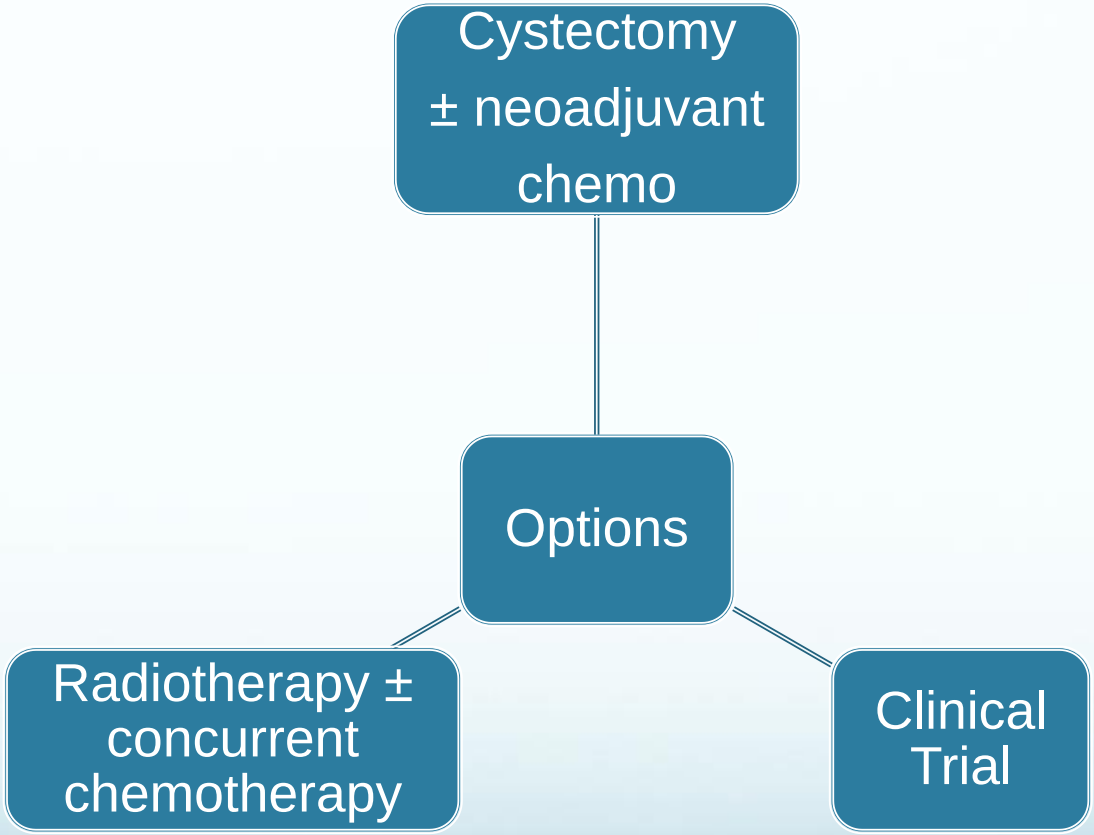
- Any other investigations?

Question 2 (cont..)

- CT IVU
- CT chest/abdomen/pelvis to complete staging

Treatment Options?

MIBC Management



Patient Outcome

- Cysto-prostatectomy

MIBC Favouring Treatment Factors

Surgery

- Poor bladder function
- Widespread CIS
- Large volume tumours
- Multifocal
- Previous pelvic RT
- Active IBS
- Severe LUTS

Radiotherapy

- Good bladder capacity
- Max TUR
- Unifocal
- Min-moderate LUTS
- Unfit for surgery
- Patient wishes

Case 3

- 72y old female, previous pelvic RT for bladder cancer 5y ago, ex-smoker, presents with tremor, unsteady gait and cognitive problems, pain L ribs after fall in garden.
- Question 1: Differential diagnoses?
- Question 2: Investigations and Management

Question 1

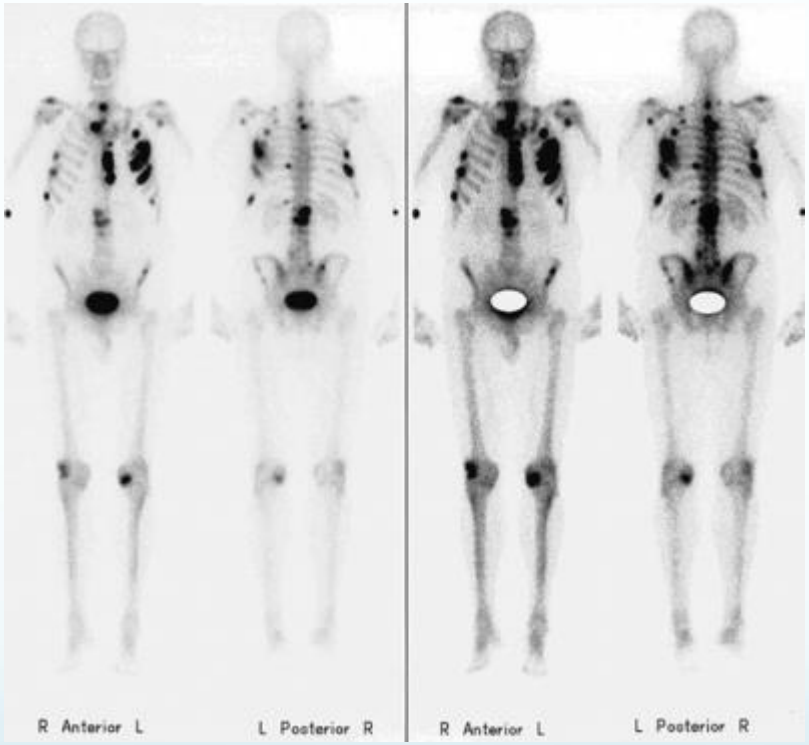
- CVA
- Alcoholism?
- Brain metastases from previous cancer
- Primary brain tumour

Question 2 - Investigations

- Bloods: hypercalcaemia – admitted for correction
- CT Head normal for age
- TFTs normal

- Anything else?

Her Bone Scan



Question 2 - Management

- Rib biopsy = metastatic TCC bladder
- CT chest/abdomen/pelvis = lung metastases
- Palliative RT L ribs 8Gy/1#
- Had 6 cycles of cisplatin/gemcitabine with good partial response and neurological symptoms resolved.

Paraneoplastic presentation of metastatic bladder cancer

Question Time