Metro North Hospital and Health Service *Putting people first*

Royal Brisbane and Women's Hospital

Oncologic Emergencies

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Queensland Government

Oncologic Emergencies

- Case based talk
- Febrile neutropenia
- Calcium disorders
- Spinal cord compression
- Brain metastases

Case 1

- 70yr old male

- Diagnosed with metastatic prostate cancer 2013
  - PSA: 300 u/l
  - Bone metastases
  - Gleason 9 adenocarcinoma

- Commenced on androgen deprivation but developed progression 2014 with new hip pain and rising PSA

Case 1

- Denosumab commenced
  - 120 mg every 4 weeks

- Right hip received radiotherapy

- Docetaxel chemotherapy commenced January 2015

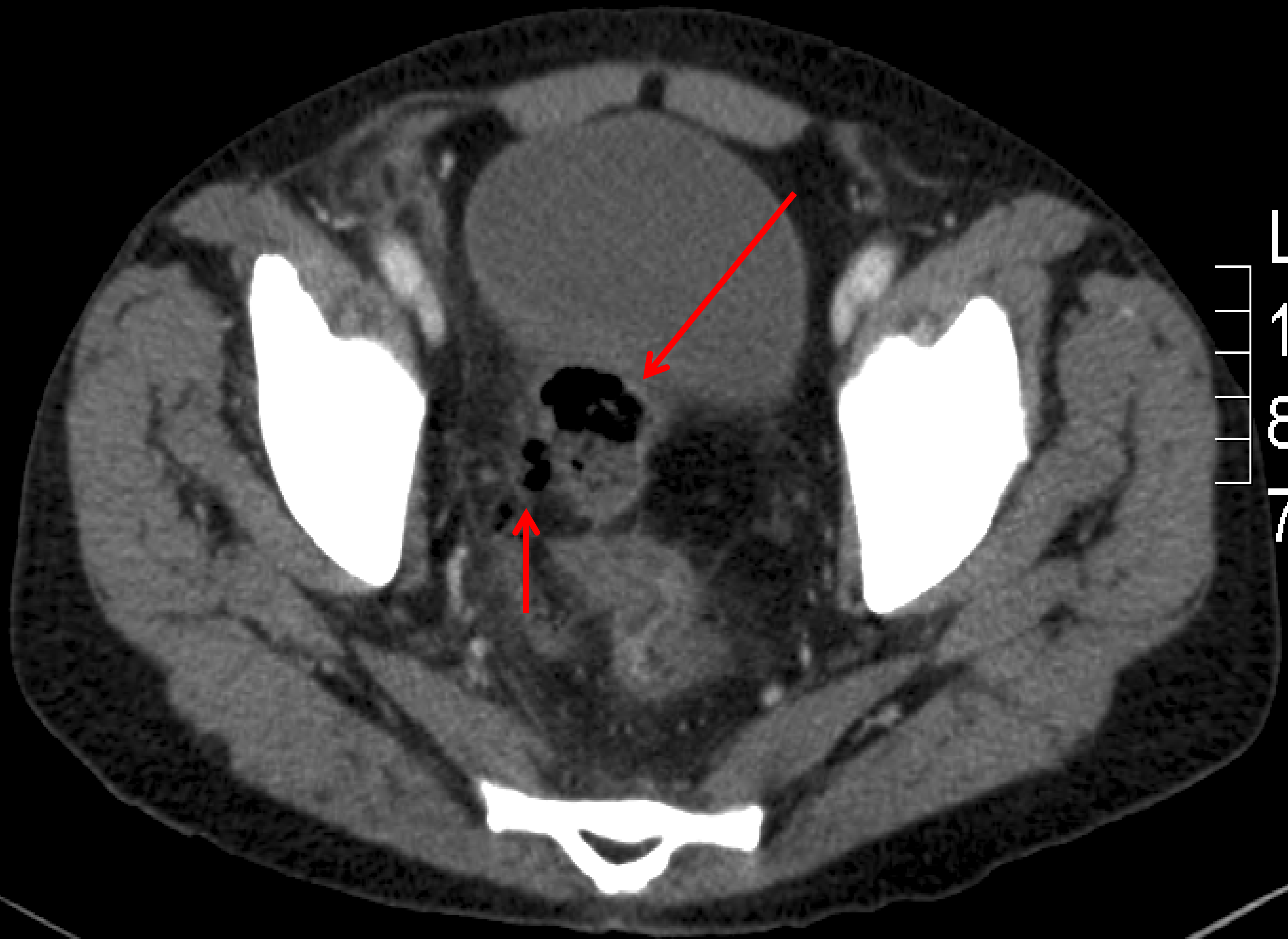
- PSA fell

Case 1

- Admitted 8 days after 4th docetaxel cycle

- Febrile to 39 degrees
- Acute abdominal pain
- Blood pressure 80/40
- Neutrophils 0.46 (2-11)
- Corrected calcium 1.27 (2.1-2.6); ionized 0.78 (1.3-1.5)

- CT: perforated diverticulitis



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Case 1

- Urgent sigmoid colectomy and Hartmanns
- ICU:
  - Inotropes
  - Calcium chloride IV
  - Broad spectrum IV antibiotics
    - Metronidazole, gentamicin, ampicillin
  - G-CSF

- Gradually recovered

- Calcium took 4 months to return to normal

Case 1

- Chemotherapy (docetaxel) and denosumab ceased!
- Enzalutamide commenced
- Patients remains quite well to date
- No recurrence of hypocalcaemia

Febrile Neutropenia

- Very common chemotherapy side effect
- Neutropenia usually 7-14 days after last dose
- Various definitions:
  - Fever >38 degrees
  - Neutrophils <1.0
- Urgent assessment required:
  - Attempt to risk stratify
  - Associated symptoms
    - Mucositis; diarrhoea; pain; confusion; dyspnoea
  - Co-morbidities
  - Antibiotic allergies; recent antibiotics

Febrile neutropenia

- Examination:
  - Vital signs; oxygenation
  - Infection source
    - Mouth; skin; perineum; central lines
  - Avoid invasive procedures including PR exam
- Treatment:
  - Cultures; radiology as appropriate
  - Urgent intravenous antibiotics

Calcium disorders

- Hypercalcaemia of malignancy:
  - Breast; lung; myeloma;
  - Associated with poor prognosis

- Secretion of parathyroid related protein most common cause
  - Don’t have to have bone metastases

- Commonly asymptomatic
  - Symptoms can be very non-specific
  - Polyuria; thirst; confusion

Calcium disorders

- Hypercalcaemia treatment:
  - Re-hydration
  - Bisphosphonates
    - Zoledronic acid 4mg.
- Hypocalcaemia:
  - In oncology, usually drug related.
  - Consider stopping offending agent
  - Check for hypomagnasemia
  - Calcium IV replacement guided by symptoms/prolonged QT interval on ECG

Case 2

- 73 year old male
- Metastatic adenocarcinoma of the lung diagnosed in 2010.
- Treated with various chemotherapy agents; investigational cancer stem cell inhibitor and immune activating antibody.
- Mid 2016:
  - Several weeks of gradually worsening upper back pain
  - Radiating around anteriorly
  - Paraesthesia over left side of trunk/lower limb
  - No weakness or autonomic dysfunction

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Case 2

- Dexamethasone 8mg BD commenced immediately
- Urgent radiotherapy to the thoracic spine
- Pain substantially reduced over subsequent weeks
- Dexamethasone gradually weaned.
- Remains ambulatory, being worked up for another clinical trial!

Spinal cord compression

- Need to consider it as a possibility
  - Anyone with known metastatic malignancy
  - But it might be the first presentation!

- Common primary sites:
  - Lung
  - Breast
  - Multiple myeloma
  - Prostate

- Thoracic spine > lumbar > cervical
  - From vertebral bone metastases

Spinal cord compression-symptoms

- Back pain
  - Usually precedes neurologic symptoms
  - Worse lying flat; radicular features

- Neurologic symptoms
  - Weakness
  - Sensory level
  - Urinary retention-late sign
  - ataxia

Spinal Cord Compression

- MRI is the optimal investigation
  - Entire spine
- Immediate commencement of corticosteroids
  - Optimal dexamethasone dose uncertain
    - 16mg in divided doses
- Surgical decompression
- Radiotherapy
- Chemotherapy
  - Combination of all these

Spinal cord compression

- **Neurologic status at diagnosis/start of treatment dictates patient outcome.**

- **Starting treatment once paralysed likely futile and will not improve neurologic function.**

- **Early diagnosis and intervention is key.**

Case 3

- 46 year old lady

- Breast cancer diagnosed 2015.
  - Mastectomy
    - Heavy nodal burden in axilla
  - Adjuvant chemotherapy and radiation to chest wall

- April 2016:
  - 3 day history of severe headache
    - No associated neurological symptoms

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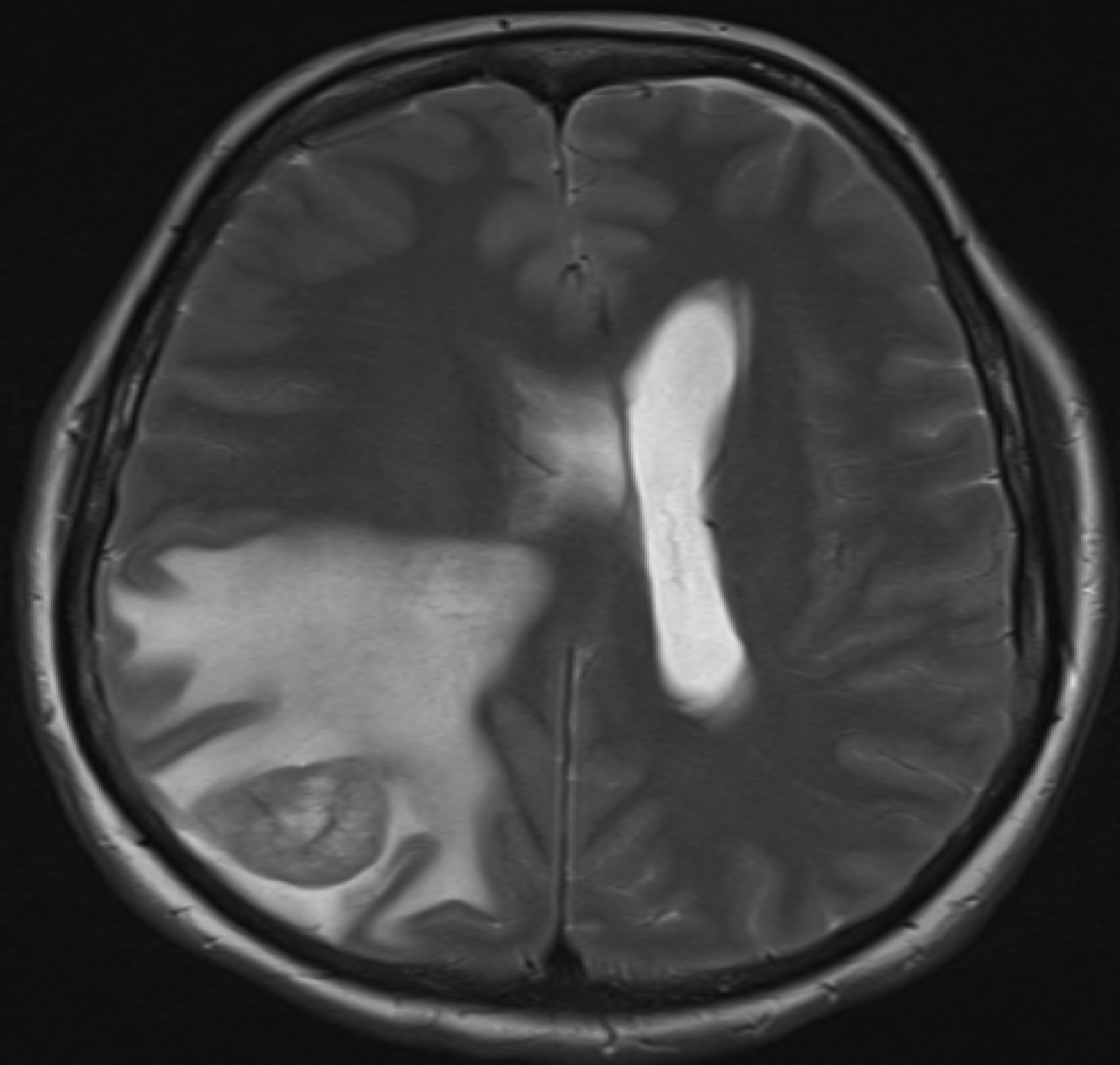

Case 3

- Isolated right parietal metastasis causing ventricular effacement
- Dexamethasone 4mg QID commenced with rapid improvement
- Urgent neurosurgical resection
- Followed by whole brain radiotherapy
- Staging CT also demonstrated hepatic metastases
  - Commenced chemotherapy and is doing well

Brain metastases

- Primary sites:
  - Lung, breast, kidney, melanoma, colorectal

- Increasing incidence:
  - Patients living longer due to better treatments

- Consider prognosis before determining best treatment

- Corticosteriods; surgery; radiotherapy; systemic therapy
  - Prophylactic anti-epileptics generally not recommended

Thank you for your attention!