



Oncologic Emergencies: When to call the Radiation Oncologist

Dr. Shrinivas Rathod Radiation Oncologist Radiation Oncology Program CancerCare Manitoba and University of Manitoba





Disclosures

Speaker's name: Shrinivas Rathod

Relationships with commercial interests:

- •Grants/Research Support: none
- •Speakers Bureau/Honoraria: none
- •Consulting Fees: none
- •Other: none



Mitigating Potential Bias

Not applicable





Learning Objectives

At the end of this presentation the learner will be able to:

- 1. Recognize oncologic emergencies and describe the role of radiation therapy to manage them.
- 2. Discuss the role of primary care providers in the investigation and management of oncologic emergencies.



Common Oncological emergencies

- Spinal Cord Compression
- Superior Vena Cava Obstruction
- Acute bleeding
- Febrile Neutropenia
- Hypercalcemia
- Tumour Lysis Syndrome



Distribution of indications for emergency RT treatment



FIGURE 1 Anatomic sites treated as emergencies over a weekend or holiday. GI = gastrointestinal.

Christian et al. Acta Oncologica, 2008; 47: 81 89 Mitera et al. Curr Oncology 2009:16:55-60.



Spinal Cord Compression

- Major emergency requiring radiation treatment
- Commonly from Ca prostate, lung and breast
- Ambulatory status is most important prognostic feature



Quint et al. JAMA. 2000 Feb 16;283(7):853-5. Schiff et al. Lancet Oncology. January 2005; 6(1):15-24.



Spinal Cord Compression

Symptoms:

- Pain localized to spine or radicular pain
- Pain worsening with movement
- Numbness, tingling, limb heaviness
- Altered bowel / bladder habits
- Perianal numbness

Signs:

- Motor weakness
- Sensory impairment
- Conus medullaris syndrome



Investigations

- Non-contrast MRI of whole spine is best test
- CT scan if MRI contraindicated or not available
- Biopsy if:
 - metastatic disease not proven/documented
 - no previous diagnosis of cancer



Algorithm

PATIENT PRESENTATION

Suspected spinal cord compression (severe pain or abnormal neurology, or incidental finding on MRI- not intended for traumatic injuries. If in emergency center, triage patient as emergent.)



- Emergent treatment as follows:
- Dexamethasone² 10 mg IV STAT followed by 16 mg PO daily in divided doses (taper over 2 weeks)
- Obtain urgent MRI³ of entire spine without contrast (to be reviewed by Radiologist while
- patient in MRI to evaluate for addition of contrast)
- Consider bed rest (no walking)
- If cervical spine lesions suspected, place patient in Philadelphia Collar
- Baseline neurological exam followed by serial neurological exams after steroid treatment
- Consider dexamethasone²10 mg IV followed by 16 mg PO daily in divided doses (taper over 2 weeks)
- Obtain MRI³ of entire spine without contrast during this encounter (to be reviewed by Radiologist while patient in MRI to evaluate for addition of contrast)



- Pain control
- Hydration and nutritional status
- Catheterize if urinary retention
- Bowel care
- Stabilization if spinal instability



Consider the patient's performance status, extent of metastatic disease, spinal stability, underlying tumor radio sensitivity, and degree of spinal cord compression

Treatment Ideally within 24 hours of the confirmed diagnosis of MSCC

Sx+RT

(tissue diagnosis, spine instability, expected survival >3-6 months, radio resistant tumors) RT alone(rapid neurological decline, stable spine, poor expected survival, radio sensitive tumors)









Spinal Cord Compression – Key points

- A history of persistent worsening back pain in a patient with cancer warrants urgent investigation.
- Immediate MRI of the whole spine is the imaging modality of choice.
- Surgical resection and / or radiotherapy are recommended treatment options in majority cases
- Failure of immediate diagnosis and treatment is associated with significant morbidity and compromised quality of life.



Superior Vena Cava Obstruction

- Gradual compression of the superior vena cava, leading to edema and retrograde flow
- Most commonly caused by intrathoracic malignancy (lung cancer, lymphoma, germ cell tumors, thymoma
- Associated with advanced disease



Wudel et al. Curr Treat Options Oncol. 2001 Feb;2(1):77-91. Rowell et al. Clin Oncol (R Coll Radiol). 2002 Oct;14(5):338-51.



Superior Vena Cava Obstruction

Symptoms:

- Dyspnoea
- Neck and facial swelling
- Head fullness / headache
- Trunk and arm swelling
- Cough
- Dysphagia

Signs:

- Facial or neck swelling
- Dilated chest vessels
- Stridor

Wudel et al. Curr Treat Options Oncol. 2001 Feb;2(1):77-91. Rowell et al. Clin Oncol (R Coll Radiol). 2002 Oct;14(5):338-51.



Investigations

- Contrast enhanced CT chest
- CBC

Wudel et al. Curr Treat Options Oncol. 2001 Feb;2(1):77-91. Rowell et al. Clin Oncol (R Coll Radiol). 2002 Oct;14(5):338-51.





Rowell et al. Clin Oncol (R Coll Radiol). 2002 Oct;14(5):338-51.









SVCO- Key points

- Initiation of high dose steroids often results in symptomatic relief.
- Radiotherapy provides good palliation in the majority of patients.
- Insertion of an intravascular stent often results in symptomatic relief within 24–48 h.



Radiation Oncology consult process

If the radiation oncology referral is **urgent** then please contact on call Radiation Oncologist through paging at **204-787-2071** (Health Sciences Centre)



Radiation Oncology consult process

Central referral office, CCMB

Fax: 204 786 0621

Phone: 204 787 2176



Take home message

- Radiation therapy has a key role in the management of metastatic spinal cord compression and superior vena cava obstruction
- Prompt referral and appropriate imaging will help in timely initiation of therapy
- Primary care providers have a vital role in the management of oncological emergencies





QUESTIONS?

srathod@cancercare.mb.ca

