Spinal Cord Compression Management in Cancer Patients

This practice algorithm has been specifically developed for MD Anderson using a multidisciplinary approach and taking into consideration circumstances particular to MD Anderson, including the following: MD Anderson’s specific patient population; MD Anderson’s services and structure; and MD Anderson’s clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers. This algorithm should not be used to treat pregnant women.

**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**

- Dexamethasone\(^2\) 10 mg IV STAT followed by 16 mg PO daily in divided doses (taper over 2 weeks)
- Obtain urgent MRI\(^3\) 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

**MRI supports spinal cord compression\(^4\)?**

- Yes
  - Reconsider neurosurgery
  - Palliative care for symptom control
- No
  - Further work-up by treating physician
  - Notify Neurosurgery if suspected spinal instability

**Pain and/or neurological symptoms with progression within 48 hours\(^5\)?**

- Yes
  - Consider dexamethasone\(^2\) 10 mg IV followed by 16 mg PO daily in divided doses (taper over 2 weeks)
  - Obtain MRI\(^3\) of entire spine without contrast during this encounter (to be reviewed by Radiologist while patient in MRI to evaluate for addition of contrast)
- No

**Tissue diagnosis if clinically indicated**

- Yes
  - Primary team to treat with chemotherapy\(^5\)
- No

**Chemosensitive disease?**

- Yes
  - Surgery
- No

**Surgery appropriate?**

- Yes
  - Post-treatment follow up
  - Re-evaluate symptoms and determine further treatment
- No

**Radiation therapy appropriate\(^6\)?**

- Yes
  - Reconsider neurosurgery
- No

1. Consider use of Frankel Classification to assist with patient’s current status (see Appendix A)
2. Use of steroids in undiagnosed lymphomas is not recommended
3. CT scan if not eligible for MRI
4. Consider use of Epidural Spinal Cord Compression (ESCC) radiographic classification for cord compression assessment (see Appendix B)
5. For instances where patient is already receiving chemotherapy, the oncologist will advise on whether treatment should be continued/discontinued/delayed
6. Consider radiosensitivity of tumor

Approved by the Executive Committee of the Medical Staff on 02/28/2017

Department of Clinical Effectiveness V3

Copyright 2017 The University of Texas MD Anderson Cancer Center
### APPENDIX A – Frankel Classification

<table>
<thead>
<tr>
<th>Grade</th>
<th>Status</th>
<th>Sensory Function Below Level of Compression</th>
<th>Motor Function Below Level of Compression</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Paraplegia</td>
<td>No sensation</td>
<td>Complete paralysis (no function)</td>
</tr>
<tr>
<td>B</td>
<td>Sensory function only</td>
<td>Some sensation</td>
<td>Complete paralysis (no function)</td>
</tr>
<tr>
<td>C</td>
<td>Non-ambulatory</td>
<td>-</td>
<td>Some motor function, but of no practical use to the patient</td>
</tr>
<tr>
<td>D</td>
<td>Ambulatory</td>
<td>-</td>
<td>Some motor function with some use to the patient</td>
</tr>
<tr>
<td>E</td>
<td>No neurologic signs or symptoms</td>
<td>Normal</td>
<td>Normal</td>
</tr>
</tbody>
</table>
This practice algorithm has been specifically developed for MD Anderson using a multidisciplinary approach and taking into consideration circumstances particular to MD Anderson, including the following: MD Anderson’s specific patient population; MD Anderson’s services and structure; and MD Anderson’s clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers. This algorithm should not be used to treat pregnant women.

APPENDIX B – Epidural Spinal Cord Compression Scale (ESCC)

Schematic representation of the 6-point ESCC grading scale.

Grade 0  Bone-only disease
Grade 1a  Epidural impingement, without deformation of thecal sac
Grade 1b  Deformation of thecal sac, without spinal cord abutment
Grade 1c  Deformation of thecal sac, with spinal cord abutment, without cord compression
Grade 2  Spinal cord compression, with cerebral spinal fluid (CSF) visible around the cord
Grade 3  Spinal cord compression, no CSF visible around the cord

Reproduced with permission from Bilsky et al, 2010, J Neurosurg: Spine 13(3), 324-328
This practice algorithm has been specifically developed for MD Anderson using a multidisciplinary approach and taking into consideration circumstances particular to MD Anderson, including the following: MD Anderson’s specific patient population; MD Anderson’s services and structure; and MD Anderson’s clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers. This algorithm should not be used to treat pregnant women.

**SUGGESTED READINGS**


*Suggested Readings Continued on Next Page*
SUGGESTED READINGS - continued


This practice algorithm has been specifically developed for MD Anderson using a multidisciplinary approach and taking into consideration circumstances particular to MD Anderson, including the following: MD Anderson’s specific patient population; MD Anderson’s services and structure; and MD Anderson’s clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers. This algorithm should not be used to treat pregnant women.

DEVELOPMENT CREDITS

This practice consensus statement is based on majority expert opinion of the Spinal Cord Compression Work Group at the University of Texas MD Anderson Cancer Center. These experts included:

Patricia A. Brock, MD
Olga N. Fleckenstein
Ashok J. Kumar, MD†
Monica Elena Loghin, MD
Anita Mahajan, MD†
Laurence D. Rhines, MD†
Terry W. Rice, MD†
Debra S. Ruiz, RN
Komal Shah, MD
Shirlene Tabao, MSN, BSN-RN, OCN*
Claudio Esteves Tatsui, MD
Jayne Viets-Upchurch, MD
Jeffrey Weinberg, MD

† Core Development Team Leads
* Clinical Effectiveness Development Team