PALLIATIVE CARE
CASE OF THE MONTH

Refractory Constipation in a Patient with New Malignant Spinal Cord Compression

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Case: Mr. J is a 63-year-old man with a three-year history of castration-resistant prostate cancer, metastatic to bone, including to the spine. He presented to the emergency department with a five-day history of new onset, rapidly worsening mid-thoracic back pain, ranging 3-10/10, achey in quality, punctuated by excruciating episodes of lancinating pain associated with truncal movements. MRI with contrast of the thoracic spine showed circumferential epidural encasement of the spinal cord at T-9 without spinal cord signal changes. He was admitted for pain control and was started on dexamethasone therapy. Radiation therapy was initiated. On hospital day three, he presented with new bilateral lower extremity weakness and with an episode of insensate bowel incontinence. Neurosurgery emergently performed T-6 through T-12 laminectomy with debulking of epidural tumor.

Post-operatively, the patient's back pain was better with successfully transition to an oral opioid regimen. He continued to have some residual motor and sensory deficits. His bladder was managed with Foley catheter. He continued to have persistent constipation with anorexia, nausea and vomiting despite decreasing opioid use and a standard bowel regimen. He was passing flatus, with active bowel sounds. On digital rectal exam (DRE) he had intact sensation, diminished rectal tone, large amount of stool in the rectal vault, weak voluntary anal contraction, absent anocutaneous reflex (ACR) and bulbocavernosus (BCR) reflex.

Discussion: Defining the problem

One of the common complications of spinal cord injury (SCI) of any type is the development of neurogenic bowel and bladder dysfunction. SCI level of injury (LOI) above the conus medullaris (skeletal LOI L3 and above, and neurologic LOI S1 and above), typically produces varying degrees of upper motor neuron (UMN) neurogenic bowel and bladder dysfunction. SCI of the conus medullaris or the cauda equina (skeletal LOI L2 and below, neurologic LOI S1 and below), typically produce varying degrees of lower motor neuron (LMN) neurogenic bowel and bladder dysfunction.

UMN neurogenic bowel presents as constipation with fecal retention, although upon stool filling the rectum, defecation at rest may occur. Focused physical exam reveals normal appearing anal anatomy on inspection and normal or increased anal sphincter tone on DRE. ACR and BCR are present or increased.

LMN neurogenic bowel presents as constipation with bowel incontinence on increased intra-abdominal pressure or due to gravity, without reflex defecation at rest. Focused physical exam reveals a patulous anus with flattened, scalloped margins, and decreased or absent anal sphincter tone on DRE. ACR and BCR are decreased or absent.

In the acute phase of SCI most patients present with gastrointestinal (GI) dysmotility, including adynamic ileus as well as areflexive bladder secondary to the phenomenon of spinal shock, similar to LMN bowel syndrome described above. Spinal shock is a self-limited areflexic state with loss of autonomic control that varies in severity and duration depending on neurologic LOI and completeness (loss of all versus preservation of at least some sensory or motor function of the distal sacral segments S-4/-5) of the SCI. As spinal shock resolves preserved intrinsic spinal cord reflexive activity returns. The neurologic LOI and the completeness of the SCI largely determine the type and severity of the residual neurogenic complications. The return of BCR heralds the resolution of spinal shock.

Strategies for treatment

For the patient whose cord lesion is expected to cause a LMN bowel syndrome and who is passing flatus with bowel sounds on auscultation, proximal GI tract promotility agents, e.g., metoclopramide or low-dose erythromycin, and oral stimulant laxatives may be trialed. The more diffusely mediated gastrocolic reflex may be intact enough to provide some assistance in bowel management. Hot beverage/hot food 30 minutes prior to scheduled bowel care can be tried. Diet, fiber content, fluid intake and the use of promotility agents should be titrated to yield stool that is firm, but not hard. Ultimately, LMN bowel is managed by complete digital evacuation of stool from the rectum, which should be performed on a daily basis to help prevent episodes of incontinence.

(Discussion Continued)

For the patient whose LOI is expected to render an UMN bowel syndrome and is passing flatus with bowel sounds on auscultation, then daily evaluation of BCR should be done. In the reflex's absence bowel management should be as for a LMN bowel. Once the BCR returns then UMN bowel management is used. The main stay in UMN bowel management is the intentional coordinated initiation of the relatively intact gastrocolic and rectocolic reflexes. Stimulant laxatives are often used at night. A hot beverage/hot food is taken 30 minutes prior to scheduled bowel care. A stimulant laxative suppository is followed by digital rectal stimulation (DRS) repeated at 10-15 minute intervals. Valsalva maneuver, abdominal wall contraction, and transabdominal colonic massage in a clockwise manner helps trigger peristalsis and propel the stool.

Patient education

Patients and caregivers can be trained to manage both UMN and LMN neurogenic bowel syndromes. Successful bowel management increases quality of life, promotes social interaction both among family and friends as well as in the community. Barriers to successful neurogenic bowel management can reduce quality of life and social integration, and may even prevent successful discharge home.

Resolution of the case: Mr. J's SCI was incomplete with a neurologic LOI T-9, likely to result in residual UMN neurogenic bowel. Immediately post-operatively he was still in some degree of spinal shock. He was digitally disimpacted, his stool was digitally evacuated daily with BCR monitoring. His anorexia, nausea and vomiting resolved. His BCR returned on post-op day #9. His bowel management transitioned to a self-administered program of scheduled nightly oral stimulant laxative, morning hot beverage, and stimulant laxative rectal suppository followed with serial DRS. His caregiver was also trained in providing this bowel program. He successfully discharged home with hospice.

References:

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