

Role of Early Caudal Epidural in Epidural Metastasis Mediated Neuropathic Cancer Pain. Delineating the Safety and Efficacy Measures

Sir,

Symptomatic lumbar epidural metastasis occurs in approximately 27% of prostate cancer patients with pain being the initial presentation in 75–100% of cases.^[1,2] We are reporting a case of 60-year-old male, known case of carcinoma prostate post orchiectomy who presented with subacute onset of low back pain radiating to right lower limb predominantly in S1 dermatome, neuropathic in nature [electric shock-like, burning, and tingling in quality with a self-report Leeds assessment of neuropathic symptoms and signs (S-LANSS) score of 18] and severe in intensity with a maximum and average NRS of 10/10 in the past 24 hours.^[3] Other than cancer other red flags such as sensory or motor loss and bladder or bowel incontinence were conspicuously absent. Injection Dexamethasone 8 mg intravenous thrice a day was started. Whole body positron emission tomography-computed tomography (PET-CT) revealed hyper metabolic lytic/sclerotic lesions in multiple

lumbo-sacral vertebrae. Magnetic resonance imaging (MRI) spine^{Safety Measure (SM)} revealed a small ventral epidural soft tissue at S1 partially compressing right exiting nerve root. Pain in itself act as a diagnostic and prognostic indicator in patients with cancer particularly prostate cancer with a high propensity to metastasize to bone and spine.^[4] Considering the severity of pain, the patient was given the options of oral morphine along with anti-neuropathic adjuvants or caudal epidural. The patient insisted upon immediate termination of his plight and promptly consented for caudal epidural steroid injection. After appropriate preparation, positioning, cleaning, and draping, a 22 g spinal needle was introduced through the sacral hiatus in lateral fluoroscopic view with further advancement till the final needle tip position below S3SM in an Antero-posterior (AP) fluoroscopic view. After negative aspiration for cerebrospinal fluid (CSF)/blood, omnipaque 240 3 ml was injected slowly under continuous fluoroscopy which revealed an inverted Christmas tree pattern and spread

to anterior epidural space on AP and lateral fluoroscopic views respectively. Efficacy Measure (EM) injection depomedrol 80 mg diluted in 8 ml 0.2% ropivacaine was injected slowly SM in increments under continuous fluoroscopy. The patient was instructed to indicate immediately if he had headache, change in field of vision, or worsening of leg pain indicating a non-permissible rise in epidural pressure and its attendant sequel. SM The patient had 100% pain relief immediately post procedure which persisted till 6 weeks of follow-up. An early caudal epidural in the absence of absolute contraindications not only provided immediate pain relief but also acceptable functional capacity, adequate sleep, and rest, avoided intolerable medication side-effects, and hence improved overall quality of life. An immediate and adequate analgesic response also strengthened the patient trust and compliance to subsequent definitive treatment, i. e., radiotherapy. The purpose of this article is to highlight the above in addition to the indispensable role of safety SM and efficacy measures EM described throughout the text. It is of utmost importance to conform to the following safety measures (SM):

- A complete neurological examination to rule out any neurological compromise
- MRI spine
 - To check for anatomical-dermatomal congruency as well as pre-planning the needle trajectory and final position so as to avoid any needle trauma to the fragile metastatic tissue and subsequent probability of bleeding
 - To rule out thecal sac or spinal cord compression
- A controlled injection of the dye and therapeutic injectate under continuous fluoroscopy along with repeated enquiry for the absence of the symptoms suggestive of raised epidural pressure and halt the procedure at its first sign
- AP fluoroscopic view to restrict the final needle tip position below the site of metastatic soft tissue or S3 whichever is lower whereas confirmation of ventral epidural spread of injectate on lateral fluoroscopy

ensures delivery of medication to the putative etiological site. To conclude, the authors would like to propose *epidural metastasis is-mediated pain* in the absence of absolute contraindications as a valid practical indication of an early caudal epidural steroid injection provided:

- Spinal cord compression has been ruled out
- The above safety and efficacy measures are strictly adhered to
- Necessary definitive (radiotherapy) and prophylactic neuro-protective (dexamethasone) measures are co-administered.

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