



## Editorial

## Challenges in Management of Malignant Spinal Cord Compression



In this issue of the journal, Yeung et al<sup>1</sup> have presented a study on the application of modified Tokuhashi score system in Southern Chinese patients suffering from malignant spinal cord compression (MSCC). Spinal metastases occur in 3–5% of all patients with malignancy and MSCC is a well-known complication.<sup>2</sup> MSCC is an orthopaedic emergency condition that all orthopaedic surgeons would have to face in clinical practice.

MSCC can cause severe morbidities to the patients. Pathological fracture of the vertebrae causes compression on the spinal cord leading to pain and neurological deficits. McLinton and Hutchison<sup>3</sup> reported that upon admission to a regional cancer centre due to MSCC, only 9% of patients were able to walk independently, 98% of patients were having pain, and 66% of patients required urine catheterization. When discharged after treatment, 60% of MSCC patients were still unable to walk.

There are a few challenges in the management of patients with MSCC. First, the incidence of symptomatic spinal metastases is on the rise.<sup>4</sup> This is the result of improved life expectancy of cancer patients with modern advanced treatment. In other words, the number of patients with MSCC is increasing.

Second, early detection and investigation are important in timely diagnosis and treatment of patients with MSCC. Approximately 23% of patients with MSCC have no prior cancer.<sup>2</sup> A high index of suspicion is required for general practitioners and emergency medicine specialists. Timely referral for a magnetic resonance imaging scan is important. Guidelines such as that of the UK National Institute for Health and Clinical Excellence are useful to streamline the management process.<sup>2</sup>

Third, there is a trend that surgery is now increasingly applied in treating patients with MSCC. A study in 2011 by Mak et al<sup>5</sup> looked into the incidence and treatment pattern in hospitals in the United States from 1998 to 2006. They found that over the study period, inpatient radiotherapy for MSCC decreased, whereas the rate of surgery increased. Another interesting report by Henderson et al<sup>6</sup> focused on workload data from 2000 to 2010 in one spine surgical centre in the United Kingdom. The number of patients with surgery for MSCC demonstrated an exponential rise, whereas during the same period the number of patients with surgery for fractures remained static.

The implication of all these is that we need to input more health care resources. Bear in mind that the surgery for MSCC is complex and may need more operation time and more expensive implants. The study by Mak et al<sup>5</sup> has shown that the hospitalization costs for MSCC increased significantly in a few years.

Another challenge we have is how to apply the international guidelines or systems in our local practice. The scoring systems from Tokuhashi et al<sup>7</sup> and Tomita et al<sup>8</sup> are widely referred to in

the management of MSCC.<sup>7</sup> However, the study by Yeung et al<sup>1</sup> in the current issue of our journal demonstrated the limitations of these systems when applied in a local situation. The cancer pattern varies in different places. Therefore, it would be difficult for clinicians to apply these scoring systems without consideration of the local pattern of malignancy. For example, nasopharyngeal carcinoma (NPC) is a common malignancy in the southern part of China. However, it is not included in the common scoring systems. Yeung et al<sup>1</sup> actually found that MSCC with primary NPC had the most favourable outcome with a mean survival of 20.1 months.

To meet all these challenges, we need a multidisciplinary team approach, and an orthopaedic surgeon will be an important team member. Guidelines with a consideration of local disease pattern and health care situation should be laid down to provide a high standard of care for MSCC patients.

## Conflicts of interest

The author declares that he has no financial or non-financial conflicts of interest related to the subject matter or materials discussed in the manuscript.

## References

1. Yeung Y-N, Cheung K-K, Lam T-C, et al. A study of the predictive value of the modified Tokuhashi Score in metastatic spinal tumour causing cord compression in a Southern Chinese population. *J Orthop Trauma Rehabil* 2014;**18**:15–21.
2. National Institute for Health and Clinical Excellence. *NICE clinical guideline 75: metastatic spinal cord compression*. London, UK: National Institute for Health and Clinical Excellence; 2008.
3. McLinton A, Hutchison C. Malignant spinal cord compression: a retrospective audit of clinical practice at a UK regional cancer centre. *Br J Cancer* 2006;**94**:486–91.
4. Akram H, Allibone J. Spinal surgery for palliation in malignant spinal cord compression. *Clin Oncol (R Coll Radiol)* 2010;**22**:792–800.
5. Mak KS, Lee LK, Mak RH, et al. Incidence and treatment patterns in hospitalizations for malignant spinal cord compression in the United States, 1998–2006. *Int J Radiat Oncol Biol Phys* 2011;**80**:824–31.
6. Henderson L, McDonald S, Eames NW. The ever increasing demand for metastatic spinal surgery. *Ulster Med J* 2012;**81**:156–7.
7. Tokuhashi Y, Matsuzaki H, Oda H, et al. A revised scoring system for preoperative evaluation of metastatic spine tumor prognosis. *Spine (Phila Pa 1976)* 2005;**30**:2186–91.
8. Tomita K, Kawahara N, Kobayashi T, et al. Surgical strategy for spinal metastases. *Spine (Phila Pa 1976)* 2001;**26**:298–306.

Nang-Man Raymond Wong  
Deputy Editor-in-Chief, *Journal of Orthopaedics,  
Trauma and Rehabilitation*,  
Hong Kong  
E-mail: nmrwong@yahoo.com.hk.