

## Management of Metastatic Spinal Cord Compression in Secondary Care

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### Background

Metastatic spinal cord compression (MSCC) is a known complication of cancer in approximately 5 to 10% of patients with known malignancy and approximately 40% of patients with known bone metastases (1). Previous data has shown that this can be the first sign of malignancy in 23% of MSCC (2).

Notably, early detection and appropriate imaging as studies have shown that patients' mobility and neurological function at the time of diagnosis is a key predictor of prognosis (3). The current National Institute for Health and Care Excellence (NICE) guidance [CG75] recommends: "patients with suspected MSCC should have an urgent MRI within 24 hours" (4).

### Aims

Audit to assess compliance with national guidelines, by reviewing all patients presenting with suspected MSCC at Tameside General Hospital in a one year period (2021).

### Methods

As part of the regional MSCC audit, we retrospectively reviewed hospital electronic case and Christie Web Portal (CWP) notes of all patients attending Tameside General Hospital Emergency Department with suspected MSCC in 2021 (1 year).

Baseline characteristics including primary cancer diagnoses, presence of bony metastases, time taken for MRI spine to be performed and treatment received, were analysed. The use of the Christie Hotline, which is a 24-hour nurse-led telephone service for patients and health care professionals used to give advice on side effects and complications of cancer and treatment, was also audited.

Survival outcomes (time from diagnosis of MSCC to death), between different treatment modalities and according to the time MRI spine was performed ( $\leq 24$  hours vs  $> 24$  hours), were compared. Cox regression and Kaplan-Meier survival analyses were performed (SPSS v26.0).

Table 2 | Excluded cases (n=16/35)

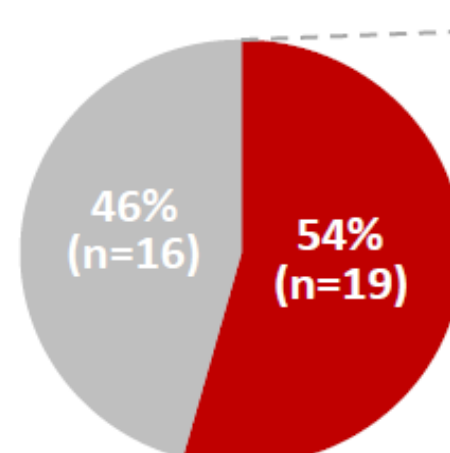
Age	Mean 55 years (range 33-91)
Disease Groups	Prostate: 5 Breast: 4 Lung: 3 CUP: 2 Upper GI/Hepatobiliary: 1 Myeloma: 1
Timing of MRI	MRI $\leq 14$ (87.5%) MRI $> 24$ hours (12.5%)
Hotline Use	Calls from: 2 patients, 1 hospice referral.

### References

1. Quraishi and Esler. *BMJ* 2011;342:d2402.
2. Brooks et al. *Eur J Orthop Surg Traumatol* 2014;24(Suppl 1):S255-9.
3. Leveck et al. *Clin Oncol (R Coll Radiol)* 2002;14(6):472-80.
4. NICE: *Overview: Metastatic spinal cord compression in adults: Risk assessment, diagnosis and management: Guidance*. 2008.

### Results

Total Number of Suspected Cases of MSCC (n=35)



■ MSCC Confirmed  
■ MSCC Excluded

Disease Groups in the Confirmed MSCC Cases

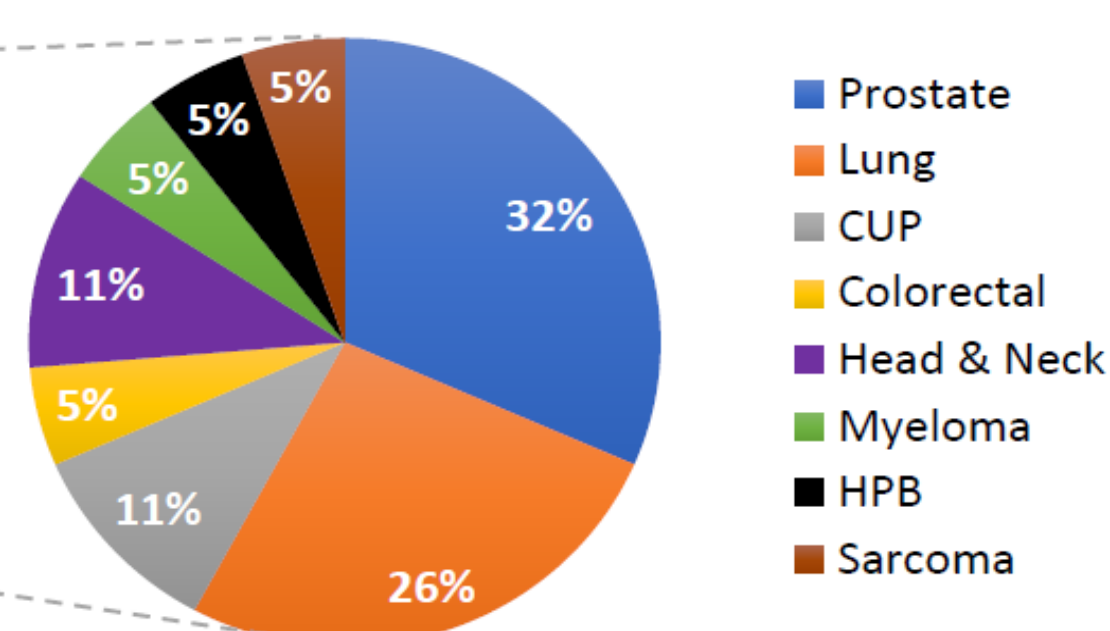


Figure 1 | Overview of the total number of suspected and confirmed cases of MSCC.

Table 2 | Patient demographics (n=19)

Age	Mean 68 years (range 43-88 years)
Gender	Male: 15 (79%) Female: 4 (21%)
Disease group	Prostate: 6 (32%) Lung: 5 (26%) CUP: 2 (10.5%) Head & Neck: 2 (10.5%) Colorectal: 1 (5%) Myeloma: 1 (5%) Upper GI/Hepatobiliary: 1 (5%) Sarcoma: 1 (5%)
Known bone metastasis	Yes: 12 (63%) No: 7 (37%)
First presentation of malignancy	5 (26%)
Treatment	Radiotherapy: 14 (74%) Best Supportive Care: 5 (26%)
Timing of MRI	MRI $\leq 24$ hours: 15 (79%) MRI $> 24$ hours: 4 (21%)
Hotline use	Calls from: 3 patients, 1 GP, 1 Macmillan nurse

### Key Findings:

- Thirty-five patients presented with suspected MSCC in 2021, of whom n=19 (54%) had confirmed MSCC (Figure 1).
- The most common sites of primary were prostate (32%), lung (26%), CUP (10.5%) and head and neck (10.5%) cancer (Tables 1-2).
- Six patients (12.5%), 4 (21%) of whom had MSCC, did not have an MRI within 24 hours, mainly due to lack of MRI availability outside working hours (Table 1).
- One in four patients (26%) presented with MSCC as first presentation of cancer (Table 1).
- Majority of patients (74%) were treated with radiotherapy (RT), with the rest managed conservatively (BSC) due to poor clinical condition (Table 1).
- The mean overall survival for those with confirmed MSCC was 114 days (128 days for those treated with RT vs 75 days for BSC). No statistical differences between groups examined (note small sample size) (Figure 2).
- Seven patients (20%) contacted due to symptoms: n=5 via Hotline and n=2 via their oncologists.

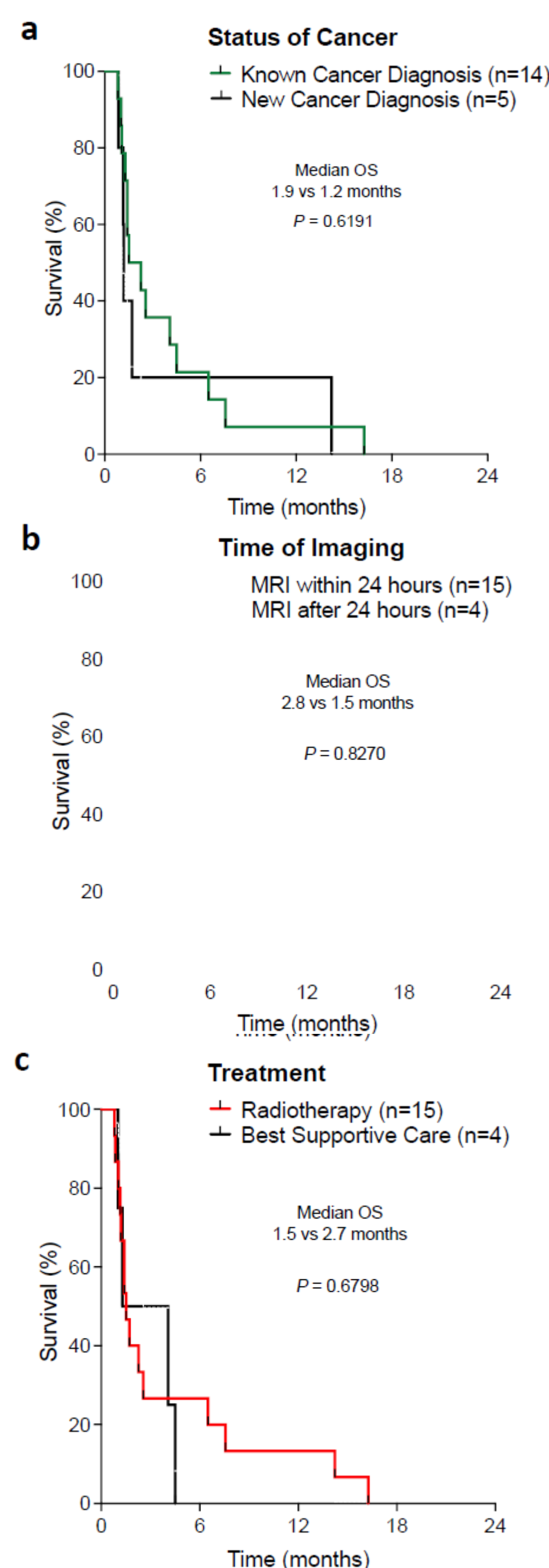


Figure 2 | Kaplan-Meier survival outcomes of patients with confirmed MSCC (n=19), stratified by (a) status of cancer, (b) timing of MRI, and (c) treatment.

### Conclusions

We share one year's experience and potential areas for service improvement of the management of suspected MSCC in a district general hospital. Awareness of red-flag symptoms, increasing patient use of the Hotline service and improving access to MRI imaging, could all be targeted. Larger scale audits across Greater Manchester to identify gaps and learn from best practices in the region will help improve MSCC pathways.