

CLINICAL IMAGE

Recurrent cervical osteomyelitis after radiation therapy in a patient with oropharyngeal cancer

Yoji Hoshina¹  | Takashi Takeuchi²

¹Department of General Medicine, Chiba University Hospital, Chiba, Japan

²Department of Radiology, Chiba University Hospital, Chiba, Japan

Correspondence

Yoji Hoshina, Department of General Medicine, Chiba University Hospital, 1-8-1, Inohana, Chuo-ku, 260-8677 Chiba-city, Chiba, Japan.
Email: yojihoshina0106@gmail.com

Funding information

None.

Abstract

It is crucial to consider cervical osteomyelitis as a differential diagnosis for neck pain in patients who underwent radiotherapy for early diagnosis and management, thereby preventing the development of potentially debilitating neurologic symptoms.

KEYWORDS

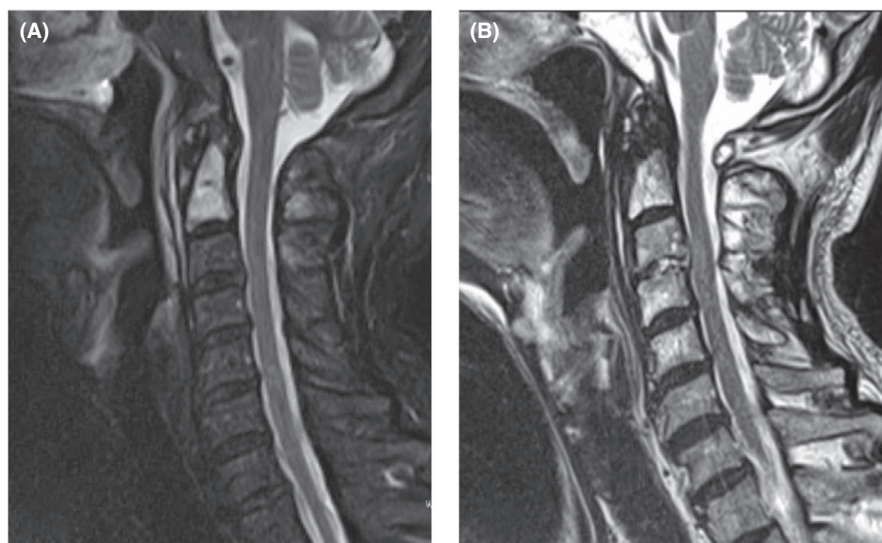
cervical osteomyelitis, osteoradionecrosis, radiation therapy, vertebral osteomyelitis

1 | CASE DESCRIPTION

A 67-year-old man with a 10-year history of oropharyngeal cancer treated with chemoradiotherapy (70 Gy)

presented with a 5-week history of fever and neck pain. Past medical history revealed cervical osteomyelitis (C1/C2) 4 years ago (Figure 1A). He was afebrile and had normal vital signs. Physical examination showed limitation

FIGURE 1 (A) Short tau inversion recovery (STIR) MRI shows a hyperintense signal at the C1-C2 vertebral bodies, suggesting the presence of inflammation. (B) T2-weighted magnetic resonance imaging (MRI) reveals a new deformity at the C3-C4 vertebral endplates and a hyperintense signal at C3/C4 intervertebral disks



This is an open access article under the terms of the Creative Commons Attribution-NonCommercial License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes.

© 2021 The Authors. *Clinical Case Reports* published by John Wiley & Sons Ltd.

of cervical range of motion in all directions. Laboratory examination demonstrated an elevated erythrocyte sedimentation rate (30 mm/h) without leukocytosis. Cervical magnetic resonance imaging revealed a new deformity at the C3-C4 vertebral endplates with hyperintense signals at C3/C4 intervertebral disks on T2 (Figure 1B). He was diagnosed with another episode of cervical osteomyelitis. Empirical treatment with vancomycin was started after collecting cultures.

Although only 14% of all vertebral osteomyelitis cases involve the cervical spine, cervical osteomyelitis has the highest risk for neurologic complications (ie, motor weakness or paralysis).¹ High-dose radiation therapy for primary head and neck malignancies is a known risk factor for osteomyelitis at the irradiated site.² The pathophysiologic mechanisms of radiation-induced osteomyelitis include osteoblast and osteoclast inhibition, vascular and lymphoid tissue damage, and mucosal ulceration, resulting in increased susceptibility to infection.²

Neck pain in patients with previous radiation therapy should be evaluated for osteomyelitis to prevent debilitating neurologic symptoms.

AUTHOR CONTRIBUTION

YH examined and treated the patient. TT read the MRI. Both authors wrote the manuscript and approved it for publication.

ACKNOWLEDGEMENTS

Nothing to disclose.

CONFLICTS OF INTERESTS

All authors have no conflicts of interest to declare.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

ORCID

Yoji Hoshina  <https://orcid.org/0000-0003-0228-664X>

REFERENCES

1. Zimmerli W. Clinical practice. Vertebral osteomyelitis. *N Engl J Med*. 2010;362(11):1022-1029.
2. Cheung JP, Wei WI, Luk KD. Cervical spine complications after treatment of nasopharyngeal carcinoma. *Eur Spine J*. 2013;22(3):584-592.

How to cite this article: Hoshina Y, Takeuchi T. Recurrent cervical osteomyelitis after radiation therapy in a patient with oropharyngeal cancer. *Clin Case Rep*. 2021;9:e05129. doi:[10.1002/ccr3.5129](https://doi.org/10.1002/ccr3.5129)