Cervical transpedicular irrigation and drainage in a patient with cervical spondylodiscitis after hypopharyngeal cancer treatment: A case report

Mahmoud Abdou, M.D
Assistant lecturer of Spine Surgery, Fayoum University College of Medicine, Fayoum, Egypt

Spine Fellow of Spine Surgery, Gangnam Severance hospital, Seoul, Korea
Background

- Cervical (SD) has the highest morbidity and mortality among infections of the spine.

- Epidural abscess, septicemia, kyphosis, and neurologic compromise necessitate surgical intervention.

- Adequate debridement and circumferential fusion, are mandatory if there is evidence of epidural abscess to avoid late collapse and neurological deterioration.
Case report:

- A 67-ys-old male
- Neck pain, stiffness, and bilateral arm pain
- No other neurological manifestations.
- History of wide excision of a cancerous hypopharynx+radiotherapy
- DM and chronic hepatitis.
- (ESR) was initially 120 mm/hr.
- (CRP) levels were 76 mg/L
- (TLC) $6.34 \times 10^3$/with 75% neutrophils with shift to left
Intervention

- CT-guided biopsy and urine, sputum, and blood cultures were analyzed first.
- An esophagogram was performed to ensure there was no barium leakage from the previous hypopharynx scar.
- Empirical intravenous antibiotic therapy (ceftazidime and teicoplanin).
- Transpedicular irrigation and drainage were used to effectively debride C6 and C7 as performed for thoracolumbar SD.
Pedicle screws were inserted into healthy vertebrae (C5–T1) using the Medial Pedicle Pivot Point (MPPP) method.\(^7\)

The pedicle track of the infected vertebrae (C6 and C7) was opened and continuously lavaged with 15 L of sterile fluids mixed with betadine.

Posterolateral fusion was performed using an autologous bone graft.

Arm pain and weakness developed postoperative, the patient underwent microforaminotomy of C6-7 foramen seven days later. One graft mixed with vancomycin powder.

Blood and tissue cultures were negative for aerobic, anaerobic, fungi and mycobacteria, so ceftazidime and teicoplanin injections were continued for four weeks.
AP compression ratio = 0.28

(A) X ray AP
(B) X ray Lat
(C) X ray AP
(D) X ray Lat
(E) MRI Sag
(F) MRI Axial
Discussion

- Cervical SD can be a fatal condition and associated with rapid neurological deterioration

- According to the literature review, there is tendency for patients to receive anterior debridement and fusion only

- However, in our case, the risk of esophageal perforation was very high, as the patient had undergone wide excision of his hypopharyngeal cancer via lateral neck dissection followed by radiotherapy with extensive tissue scaring, in addition to the current infection itself, which increased the incidence of esophageal perforation
A posterior laminectomy alone will not address the infected cervical bodies, so recurrence of infection and additional collapse are inevitable sequelae along with a high risk of neurological deterioration; thus, we decided to use the transpedicular irrigation and drainage technique.

The pedicle forms a track to the infected body for adequate debridement.

Transpedicular irrigation was highly effective in the cervical bodies; intervertebral disc access allowed the adequate removal of necrotic tissue.
Conclusion

- Transpedicular irrigation and drainage technique is effective and less aggressive treatment for cervical SD with epidural abscess in high risk patients in need of circumferential cervical intervention and in patients in whom anterior cervical debridement is contraindicated.