INTRODUCTION

Treatment of esophageal stricture post-chemoradiation includes endoscopic balloon or bougie dilation and/or stent placement. Patients often require multiple dilations to achieve and maintain therapeutic benefit. The major complications of repeated esophageal dilation are esophageal perforation and fistula formation. We describe a case of cervical osteomyelitis as a result of repeated esophageal dilations for recurrent chemoradiation-induced esophageal strictures and stenosis.

CASE PRESENTATION

Medical history
A 69-year-old man with stage IVA (cT3 N2 cM0) squamous cell carcinoma of the larynx.

Relevant medical history
- Temperature of 103°F and marked tenderness at the paravertebral region.
- Admission for neck pain.

Hospital course
- Over the course of four months, he received a total of six treatments of endoscopic balloon dilation.
- He developed dysphagia with solid food one month after the initiation of chemoradiation therapy.
- Dysphagia post chemoradiation secondary to esophageal stenosis (<5mm in diameter and 2 cm in length).
- Dysphagia resolved post endoscopic dilations.
- Over the course of four months, he received a total of six treatments of endoscopic dilations and ultimately achieved an esophageal diameter of 20 mm. His dysphagia gradually resolved after the dilations, and the PEG tube was subsequently removed.
- Admission for neck pain.
- He developed progressively worsening posterior neck pain 2 weeks after his last dilation. He was seen by his primary care physician and was treated with hydrocodone/acetaminophen (Vicodin) and physiotherapy prior to presenting to our emergency room for further evaluation four weeks later. He denied fever, chills, recent weight loss, dysphagia, or any other neurological symptoms.

Physical examination
- Temperature of 103°F and marked tenderness at the paravertebral cervical spine muscles with limited range of motion of the neck. The remainder of his physical examination, including neurological examination, was completely normal.

Laboratory findings
- WBC of 8.5 ×10^9/L (range 4.5-13.5 ×10^9/L), ESR of 121 mm/hr (range 0-13 mm/hr), and CRP of 92 mg/dL (range 0-1 mg/dL).
- Blood culture grew peptostreptococcus micros.

Imaging studies
- Cervical spine CT and MRI studies without contrast (due to patient’s refusal) suggested discitis/osteomyelitis at the C6-7 level and a fistula tract from this level to the adjacent esophagus (figures 1A and 1B).
- He was treated with tetracene 1g intravenously every 24-hours for a total course of 10 weeks, followed by 6 weeks of amoxicillin clavulanate (Augmentin) 875 mg orally, twice daily.
- His cervical spine was stabilized in an Aspen collar, not requiring surgical intervention.

DISCUSSION

Esophageal stricture
Esophageal stricture is a common sequela of chemoradiation therapy for head and neck cancers leading to dysphagia. A mean radiation dose of greater than 50 Gy was correlated with stricture and aspiration. The incidence of esophageal stricture post-chemoradiation therapy is much higher (30%–40% vs. 10%-20%) and more severe than from radiotherapy alone.1-3 Treatment of esophageal stricture post-chemoradiation includes endoscopic balloon or mechanical (push-type or bougie) dilation and/or stent placement. Patients with high grade and complex stricture often require multiple dilations to achieve and maintain therapeutic benefit.4

Our patient:
- Received concurrent 3-cycle cisplatin-based chemoradiation therapy over a period of 2 months. He did not have any local or regional cancer relapse, but developed severe esophageal stricture and stenosis.
- Had high-grade, proximal esophageal stenosis (<5mm in diameter and 2 cm in length).
- Required a total of six dilation treatments in order to achieve a final dilation of 20 mm.

Cervical vertebral osteomyelitis
Clinical manifestation
- Major symptom is neck pain.
- Fever is an inconsistent finding.
- Lab findings
  - White blood cell count may be elevated or normal
  - More than 80% of patients have significant elevations in the CRP and ESR, which can exceed 100 mm/h.

Imaging studies
- MRI with gadolinium enhancement is the most sensitive radiologic technique
  - Presence of bone marrow edema and/or bone destruction
  - Presence of discitis/osteomyelitis
  - Presence of soft tissue abscess

Management
- Conservative management
  - Surgical intervention indications
    - Unresponsive to antimicrobial therapy
    - With threatened or actual cord compression due to vertebral collapse and/or spinal instability
    - Or the need for drainage of epidural or paravertebral abscesses
- Surgical intervention:
  - He was treated conservatively without surgical intervention due to the absence of neurological deficits clinically.

REFERENCE


CONCLUSION

1. Esophageal stricture is not an uncommon occurrence in patients with head and neck cancer treated with concurrent chemoradiation therapy. Although multiple dilations are an effective treatment for esophageal stricture induced by chemoradiation therapy, they are associated with risks and complications.

2. Cervical osteomyelitis is a rare complication of esophageal dilations. It is important for clinicians to maintain a high index of suspicion in patients presenting with fever and/or neck pain after having undergone esophageal dilations for dysphagia treatment.

REFERENCES