P-49

Persistent Dysphagia Following Talquetamab-Induced Cytokine Release Syndrome and Neurotoxicity

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INTRODUCTION

• Multiple myeloma (MM) is a malignant plasma cell disorder that often requires novel treatments, including bispecific antibodies. Talquetamab, a bispecific antibody targeting GPRC5D on myeloma cells and CD3 on T cells, has shown efficacy in relapsed or refractory MM. However, it is associated with immune-related adverse effects such as cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS).

• CRS is characterized by fever, hypotension, and multi-organ dysfunction, while ICANS manifests with neurotoxic symptoms such as confusion, aphasia, and seizures. Treatment typically involves tocilizumab for CRS and corticosteroids for ICANS. Although these conditions are well-documented, their long-term complications, such as dysphagia, are not fully understood. This case report describes a patient who developed persistent dysphagia for over eight months following Talquetamab-induced CRS and ICANS, despite treatment with tocilizumab. This case highlights the need for further research into long-term complications and management.

Case Presentation

• A 73-year-old male with a history of hypertension and diabetes mellitus was found to have heavy proteinuria during a routine checkup, leading to further investigation. Bone marrow aspiration and light chain assay confirmed MM. Initially, the patient was treated with bortezomib, prednisone, and thalidomide, but the response was inadequate, prompting the initiation of Talquetamab therapy.

• On day 6 of the treatment, the patient developed fever (>38°C), altered mental status, and hypotension, suggesting CRS and ICANS. He was treated with tocilizumab, stabilizing his vital signs. However, he developed severe dysphagia, requiring non-oral feeding. He was referred to the rehabilitation medicine department for management.

• A videofluoroscopic swallowing study (VFSS) on December 12, 2024, showed no oral phase abnormalities but restricted upper esophageal sphincter (UES) opening, preventing proper food passage (Figure 1). The patient underwent continuous therapy, including Shaker exercise, balloon dilation, and balloon swallow training (Figure 2). A follow-up VFSS two months later showed partial improvement in food passage, but UES opening remained restricted with significant residue (Figure 3).

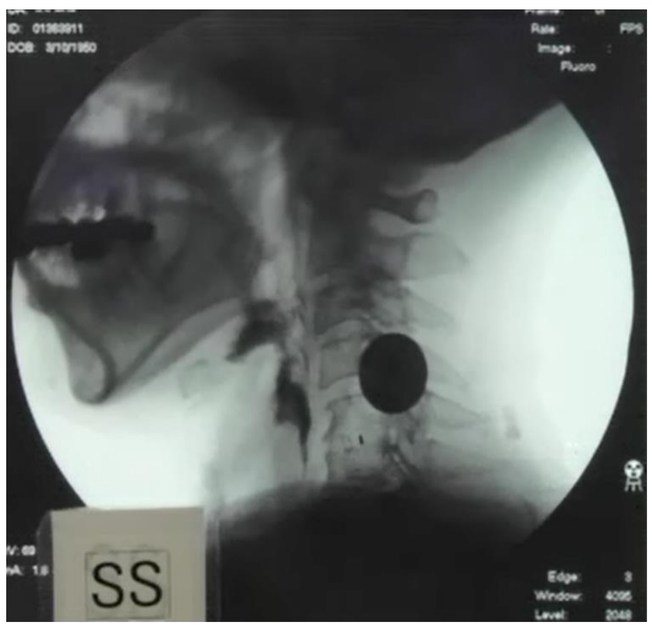

Figure 1. ***24.12.12 VFSS image (Semisolid 4cc during-swallow)***

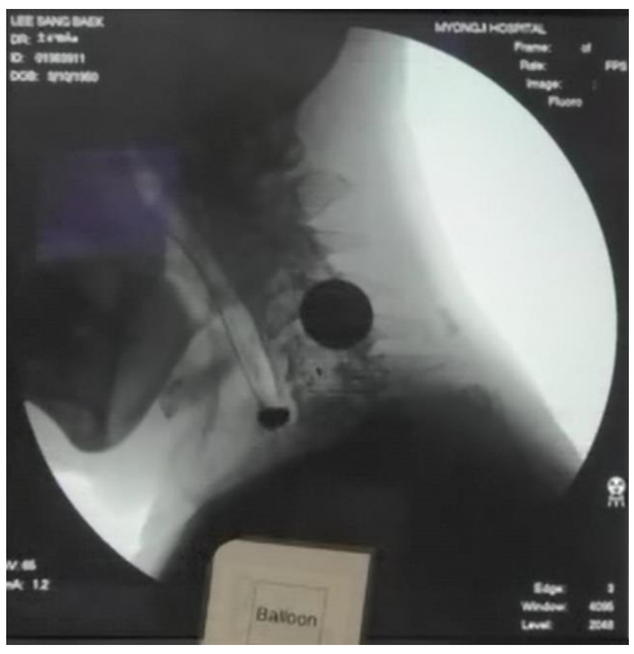

Figure 2. ***Balloon swallow and dilation***

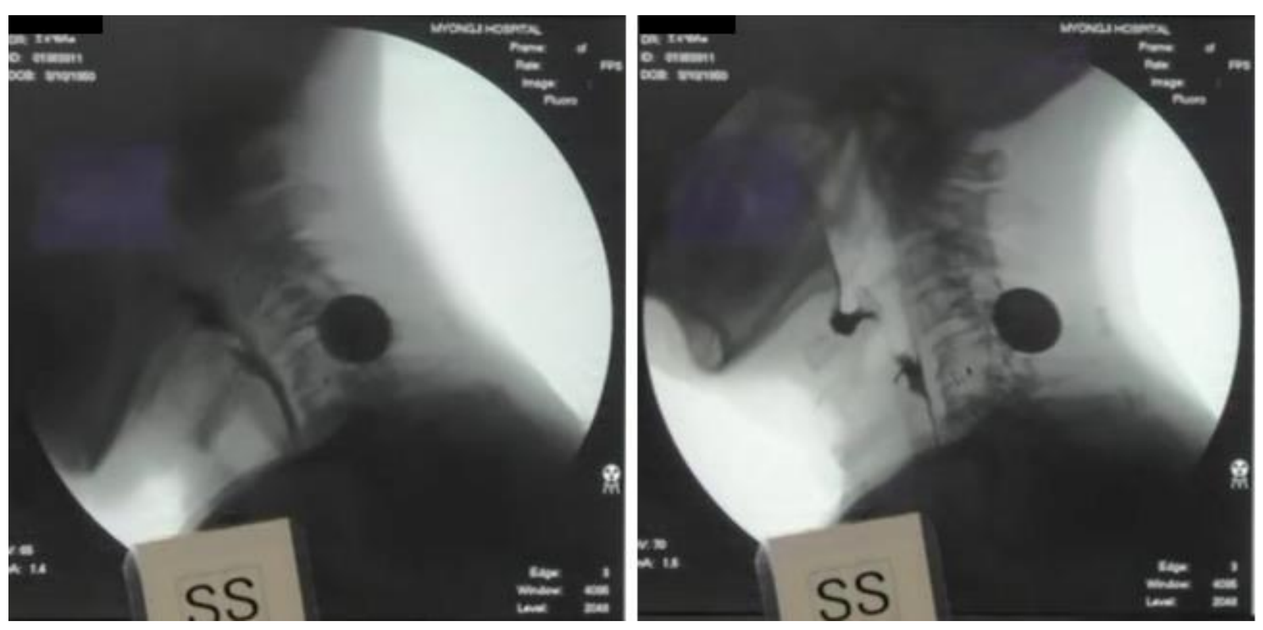

Figure 3. ***25.02.27 VFSS images (Semisolid 4cc during and post-swallow)***

CONCLUSION

• This case highlights persistent dysphagia as a rare but significant long-term complication of Talquetamab-induced CRS and ICANS. Despite tocilizumab treatment, the patient developed UES dysfunction, requiring prolonged non-oral feeding and intensive therapy.

• Serial VFSS evaluations showed partial improvement, emphasizing the need for early recognition and intervention.

• Further research is needed to better understand immune-related dysphagia and improve management in T-cell-engaging therapies.

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