A RARE CASE OF ADALIMUMAB-INDUCED ANGIOEDEMA

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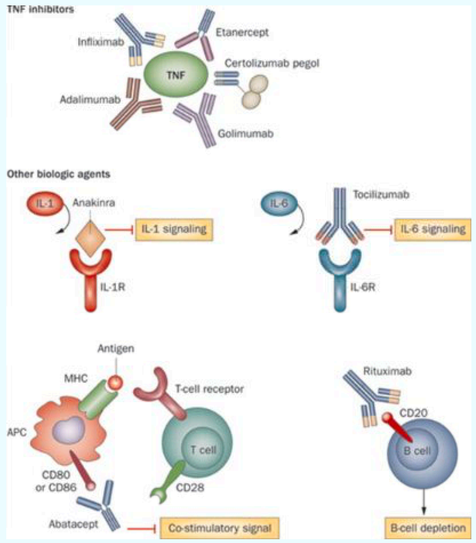
Learning Objectives

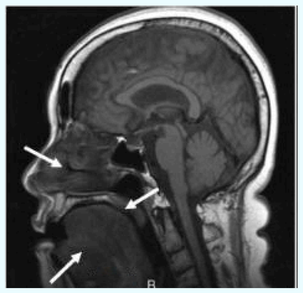
Body part swelling, not explained by other disease process may be a rare side effect of Adalimumab therapy.

Introduction

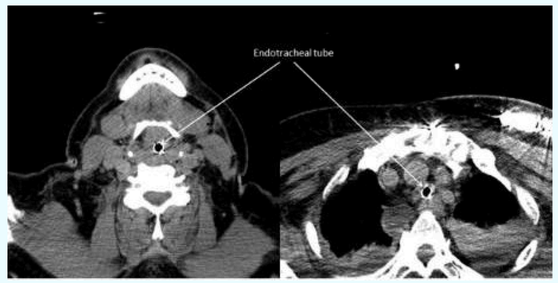
Adalimumab is a recombinant human-derived, anti-tumor necrosis factor-alpha, monoclonal antibody that is used in the treatment of various autoimmune diseases. While there are known adverse reactions that can occur with adalimumab therapy (including malignancy, infections and skin reactions), the development of angioedema/edema is very rare. We present a rare case of angioedema that we believe was associated with adalimumab therapy.



1A. Adalimumab is an anti-TNF antibody



1B



1C

1B shows tongue swelling and narrowing of the upper respiratory tract . 1C shows an intubated patient with angioedema.

Case Presentation

A 49-year-old male with a medical history of rheumatoid arthritis (RA), ulcerative colitis (UC), hemochromatosis and allergic rhinitis presented to the Emergency Department (ED) for worsening neck swelling and bilateral periorbital swelling with conjunctival chemosis.

A few days before presentation, he noted neck swelling that worsened after his Gastroenterologist recommended that he double his adalimumab dose from 40 mg every other week to 80 mg that week, followed by 40 mg weekly for 4 weeks. This new regimen was started because he had been having recurrent, persistent UC flares for the past 8 weeks, with up to 15 bloody bowel movements per day. He had been on adalimumab maintenance therapy for at least 1 year. After receiving this loading dose, he woke up the next day with photophobia, blurry vision, eye pain, and worsening neck swelling. He presented to the ED two days later. On exam, no injection site reaction or generalized urticaria was noted. Eye exam showed conjunctival chemosis with mild pemphigoid-like reaction. Neck CT showed diffuse enlargement of the soft palate and uvula, concerning for angioedema. He was given epinephrine and started on IV diphenhydramine and methylprednisolone. However, within a few hours of presentation, he developed tachypnea and respiratory distress with progressive throat swelling and had to be intubated for airway protection. He was extubated 3 days later and was discharged home on day 5 with mild residual neck swelling and on oral prednisone, 40 mg once daily for a few days. However, he was readmitted within 6 hours of discharge for reoccurring, progressive neck and throat swelling. Repeat neck CT re-demonstrated oropharyngeal and parapharyngeal soft tissue swelling, concerning for persistent angioedema. He was restarted on high dose IV corticosteroids and diphenhydramine and was re-intubated. Immunology workup showed elevated CRP of 6.9 mg/dl and normal levels of IgE, C3, C4, CH50 (total complement activity), C1q, C1INH total and C1INH functional. Radioallergosorbent test (RAST) for common food allergens, environmental allergens and Penicillin G were unremarkable; anti-adalimumab antibodies were positive. He was extubated on day 4 and received IV steroids for a total of 10 days, followed by an oral steroid taper. The angioedema resolved and did not recur. Adalimumab therapy was discontinued, and he agreed to have a colectomy several weeks later.

Discussion

We believe that our patient's angioedema, periorbital swelling, and conjunctival chemosis were most likely secondary to adalimumab therapy; however, no skin testing and biopsies were performed. Our immunology workup as noted above was unremarkable and no localized erythema and edema were noted at the injection site. The pathophysiology of adalimumab-induced edema is not fully clear at this time as reactions to adalimumab can be localized or systemic, immediate or delayed, with or without urticaria. The absence of urticaria in our patient and the fact that he had been on adalimumab maintenance therapy for at least one year, suggest that his reaction to adalimumab was most likely, not primarily mediated by histamine. His symptoms did not recur after discontinuation of adalimumab.

Conclusion

Although very rare, it is important to keep in mind the possibility of adalimumab-induced edema in patients who present with persistent body part swelling, not explained by other variables, disease processes or etiologies.

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