中文題目：Oxford AstraZeneca COVID-19 疫苗導致全身性淋巴腺腫大及自體免疫溶血性貧血之可能病例

英文題目：Possible Oxford AstraZeneca COVID-19 vaccine related autoimmune hemolytic anemia and generalized lymphadenopathy: A case report

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Introduction

Autoimmune hemolytic anemia(AIHA) is an acquired autoimmune disorder characterized by the development of antibodies against antigens on autologous erythrocytes. The disorders can present as primary (idiopathic) or secondary to other autoimmune disorders, malignancies, or infections. Here, we present a case of new diagnosed autoimmune hemolytic anemia with presentations of generalized lymphadenopathy after injection of Oxford AstraZeneca COVID-19 vaccine.

Case presentation

A 72-year-old male with type 2 diabetes mellitus and hypertension was admitted to our hospital due to fever, diffuse abdominal pain, melena and exertional dyspnea. According to him, he received the first dose of AstraZeneca vaccination about one month prior to admission. Then erythematous change of trunk and four limbs was nored two weeks after vaccination. He was brought to our emergency department with fever up to 38.5 degrees Celsius, exertional dyspnea, diffuse abdominal pain and tarry stool.

After admission, physical examinations showed livedo reticularis over trunk and four limbs. Laboratory exams revealed macrocytic anemia(Hb: 6.3-8.4 g/dL, MCV: 104-105 fl) and unconjugated hyperbilirubinemia. The abdomen computed tomography showed wall thickening of the non-distended ascending colon. Esophagogastroduodenoscopy showed no active bleeding site. Colonoscopy revealed multiple tubular adenomas and colitis over the ileocecal valve, ascending colon and transverse colon. The patient was initially treated as infectious colitis and lower gastrointestinal bleeding. No tarry stool was observed after initial management, but macrocytic anemia persisted. Further laboratory examinations showed increased reticulocyte count(2.4%), elevated LDH level(280 IU/L), low haptoglobin level (<7 mg/dL), low C3,C4 level (50.9 mg/dl, 2.19 mg/dl), positive direct/indirect Coombs test. Direct antiglobulin test revealed positive of anti-IgG and anti-C3d whereas cold agglutinin titer was negative(1:8). Related autoimmune parameters such as ds-DNA (0.6 IU/ml), c-ANCA (<0.2 IU/ml), IgG(1100mg/dl), IgA(242 mg/dl), IgM (137 mg/dl) were within normal range. Besides, chest computed tomography disclosed lymphadenopathy at the upper mediastinum[Figure 1.], bilateral hilar[Figure 2.] and subcarinal regions[Figure 3.]. Lymphoproliferative disorder-associated warm autoimmune hemolytic anemia was suspected. Endobronchial ultrasound with transbronchial needle aspiration of carina lymphadenopathy was done. The pathology showed inflammatory and fibrinous material without evidence of malignancy. Therefore, video-assisted thoracoscopic surgery was performed for hilar lymphadenopathy biopsy. The pathology revealed lymphoid hyperplasia with focal fibrosis. Reactive lymphadenopathy which may be related to AstraZeneca vaccination was suspected. After treatment with intravenous Methylprednisolone for 10 days, the unconjugated hyperbilirubinemia and anemia subsided gradually[Figure 4] and the exertional dyspnea improved. The patient was discharged with oral

prednisolone. He had stable hemoglobin level(11.3-11.6 g/dL) with the absence of hyperbilirubinemia during follow-up in hematology outpatient department.

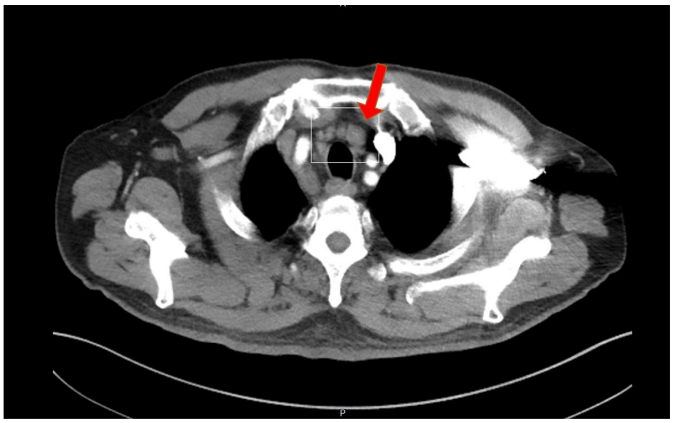


Figure 1. Lymphadenopathy of upper mediastinum region

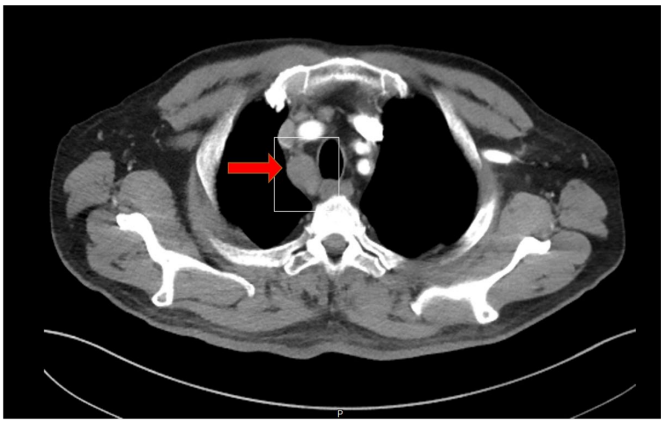


Figure 2. Lymphadenopathy of right hilar region

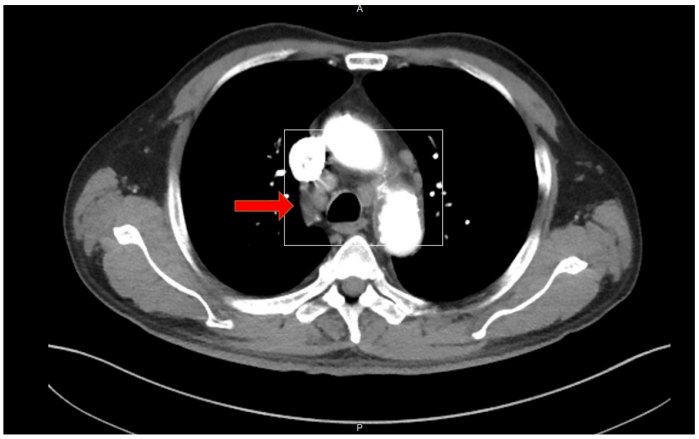
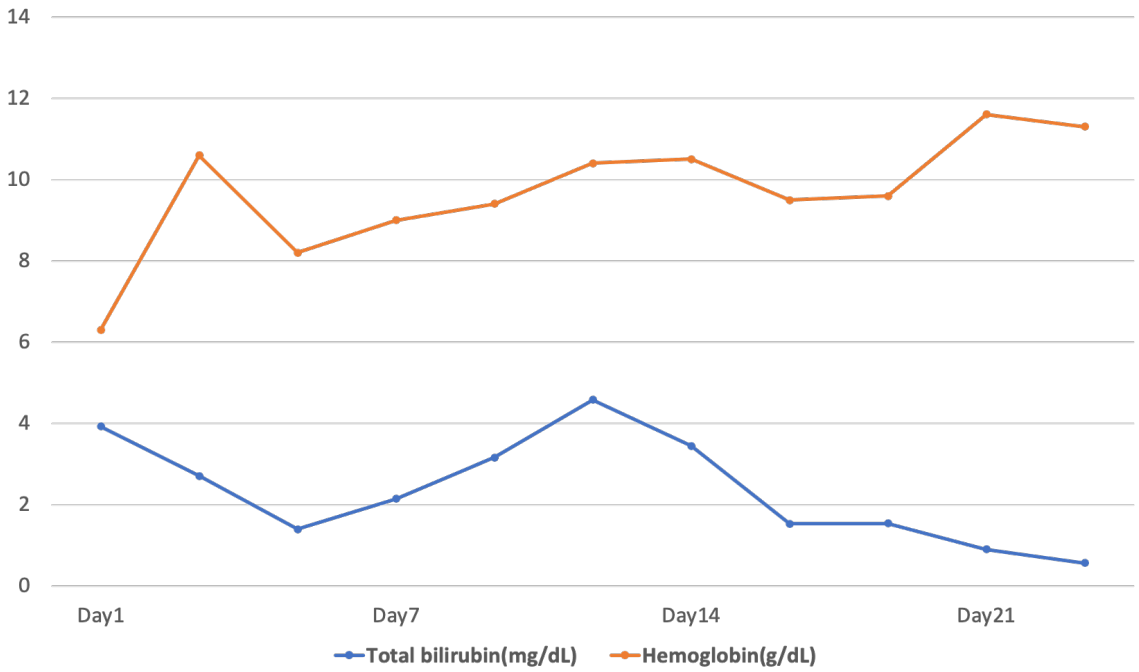


Figure 3. Lymphadenopathy of subcarinal region

Figure 4.



Discussion

The side effects and serious complications following vaccination with the COVID-19 vaccine have raised great concern, considering the COVID-19 pandemic is an ongoing global healthcare crisis. The causal relationship between vaccination and the following events of this patient was made after excluding other etiologies. AIHA had previously been described as an adverse reaction to influenza vaccine.[1] A few case reports regarding AIHA following COVID-19 messenger ribonucleic acid(mRNA) vaccination had been published in May and August 2021.[2,3] Although the mechanism is not fully understood, one theory proposes the cross-activation of autoreactive T or B cells caused by molecular mimicry of host antigens by viral-derived peptides.[4] AIHA following AstraZeneca COVID-19 vaccination are extremely rare and more relevant reports may be warranted to clarify the pathogenesis. We present this rare case, emphasizing on the diagnostic process and timely management, and share our experience with physicians in Taiwan.

References

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