Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

M004

UNUSUAL ANAPHYLACTIC REACTION TO COVID-19 VACCINE-CONSTRUCTING A HISTORY WITH TECHNOLOGY AS AN AID

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Introduction: Reported rates of anaphylaxis to vaccines overall are between approximately 1:100,000 to 1:1,000,000, depending on the vaccine.1 Herein we present an illustrative case of an anaphylactic reaction with unusual symptoms, some of which were cross-verified using technology offered by the patient.

Case Description: 56-year-old female with PMH of anaphylaxis, asthma, PTSD, MDD presented to allergy clinic 8 weeks after receiving first dose of Pfizer BioNTech COVID-19 vaccine. Soon after vaccination, she experienced headache; 4.5 hours later, patient experienced altered mental status (AMS), nausea, vomiting, and episodes of syncope. Patient provided timestamped front door camera footage during her clinic visit that demonstrated erratic behavior consistent with AMS.

Discussion: More information about side effects and potential anaphylactic reactions associated with the COVID mRNA vaccines becomes available daily. It is prudent to consider all anaphylaxis diagnostic criteria when evaluating patients that have suspected reactions within minutes to hours of vaccine administration, especially when symptoms exhibited cannot be attributed to other causes. Diagnostic criteria for anaphylaxis include acute onset of more classic symptoms such as hives and respiratory compromise, but also less obvious criteria such as syncope, AMS, and gastrointestinal symptoms, even in the absence of other symptoms. In the era of technology, additional data sources exist to assist in evaluation and diagnosis of patients. When treatment might be affected, consider asking patients who have access to such data.

M005

A CASE OF TRIMETHOPRIM-SULFAMETHOXAZOLE INDUCED ASEPTIC MENINGITIS MASQUERADING AS SEPTIC SHOCK

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Introduction: Trimethoprim-sulfamethoxazole induced aseptic meningitis (TSIAM) is a rare adverse reaction to a commonly prescribed antibiotic. We describe a case of severe TSIAM which resembled septic shock.

Case Description: A 30-year-old male with relapsed Hodgkin lymphoma 25 days status post autologous stem cell transplant presented to our clinic for evaluation of trimethoprim-sulfamethoxazole (TMP-SMX) hypersensitivity. After review of patient's history and records, we had a low suspicion for a TMP-SMX adverse reaction and conducted an oral challenge to one 800MG/160MG tab of TMP-SMX. Four hours subsequently, the patient developed vomiting, lightheadedness, and disorientation with progression to rigors, fever, tachycardia, and hypotension. He was admitted for fluid resuscitation and broad spectrum antibiotic coverage for neutropenic fever and possible septic shock. A lumbar puncture performed due to complaints of headache, photophobia, and neck pain showed 375 WBC/μL with 73% neutrophil predominance, normal glucose (75 mg/dL), and elevated protein (101 mg/dL); additional CSF studies were negative for infectious etiologies. Fever and headache resolved by hospital day four, at which time patient was discharged home.

Discussion: We believe this case represents TSIAM given the characteristic timing of symptom onset, CSF findings, and timing of symptom resolution without other clear etiology found on extensive infectious evaluation. It is important for allergists to recognize TSIAM, including its potential presentation as shock, in order to appropriately diagnose and counsel patients who seek evaluation for TMP-SMX adverse reactions.

M006

DELAYED-ONSET ANAPHYLACTIC REACTION WITH HIGH FEVER AFTER AMOXICILLIN ORAL CHALLENGE AND NEGATIVE PENICILLIN SKIN TESTING

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Introduction: Immunologic adverse drug reactions can be categorized based on Gell and Coombs's classification system. Anaphylaxis is generally considered a type I, immediate, IgE-mediated reaction and typically occurs independent of other immunologic reactions. However, the child presented here reacted after amoxicillin challenge with features of type I and type III or IV hypersensitivity reactions.

Case Description: A 12-year-old female presented for amoxicillin allergy evaluation after treatment for scarlet fever with amoxicillin. After the second dose she developed rash with varied features, fatigue, edema, and joint swelling. Labs included a persistently low C4 level, eosinophilia, normal inflammatory markers, and normal tryptase level. It was unclear if symptoms were due to infection or drug reaction, so she underwent skin testing to benzylpenicillin, benzylpenicilloyl polylysine, and ampicillin which was negative. Two hours after a graded amoxicillin oral challenge, she developed shortness of breath, diffuse erythema, and pruritus. Epinephrine was administered with symptom resolution. One hour later, she developed diffuse erythema, periorbital/lip edema, nausea, delayed capillary refill, and high fever. Epinephrine and intravenous fluids were given with symptom improvement. Tryptase level was elevated from baseline. She was admitted and discharged asymptomatic the next day.

Discussion: The patient's symptoms and elevated tryptase are consistent with delayed-onset, biphasic anaphylaxis, however the presence of high fever suggests a co-existing type III or IV hypersensitivity reaction. The literature has reported rare cases of mixed hypersensitivity drug reactions that include multiple reaction types. Recognition of this phenomenon is important when evaluating patients with adverse drug reactions involving mixed features.

M007

DRESS REACTION TO ANAKINRA IN A PATIENT WITH SEVERE SYSTEMIC JUVENILE ARTHRITIS (SJIA)

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Introduction: Drug Rash with Eosinophilia and Systemic Symptoms (DRESS) is a life-threatening delayed drug hypersensitivity with rash, eosinophilia, and systemic symptoms with end organ damage. Cessation of the offending drug, supportive care, and immunosuppression are mainstays of treatment. This becomes challenging when the offending drug is critical for treating the underlying disease. We present a case of a patient with systemic juvenile arthritis (sJIA) developing DRESS to anakinra (IL-1 receptor antagonist).

Case Description: A 10-month-old female presented with joint pain, fevers, non-migratory erythematous rash, and elevated inflammatory markers including ferritin (1946.9 ng/mL). She was diagnosed with sJIA and started anakinra with initially favorable response. Two weeks later, she developed recurrent fevers, skin desquamation, diffuse rash with areas of subjective swelling, elevated inflammatory markers (CRP 11.2 mg/dL), eosinophilia (AEC 1880x10-9 per L), and hepatitis (AST 84 IU/L, ALT 78 IU/L). CT chest and lung biopsy revealed pulmonary involvement of early sJIA disease and skin biopsy consistent with DRESS. Anakinra was discontinued. Treatment regimen was changed to systemic glucocorticoids, tofacitinib, and tacrolimus with great response.

Discussion: DRESS to IL-1 antagonists in patients with severe sJIA has significant mortality risk. Saper et al described a cohort of 61 sJIA patients with lung disease with a 42% five-year survival rate. 13/61 patients in this cohort developed DRESS to anakinra with 9/13 deceased. 3/13 patients developed DRESS to canakinumab (monoclonal antibody targeting IL1β) with one fatal outcome.