ANCA ASSOCIATED VASCULITIS FOLLOWING INFLUENZA VACCINATION

Faran Polani, MD*; Adnann Polani, MD†; Saqib Mahmud, MD†

Departments of Internal Medicine* and Hospital Medicine†, MARSHFIELD CLINIC, MARSHFIELD, WI

Introduction

Despite the existence of several case reports implicating vaccinations in the development of autoimmunity and rheumatic disease, reliable links between autoimmune disease and vaccinations could only be established in very few circumstances. Due to the very rare incidence of autoimmunity after vaccination large randomized-controlled trials would be necessary to clarify the relationship.

Case Report

A 74 years old Caucasian male with no known auto-immune or significant rheumatological history presented with complaints of gross hematuria for 24-36 hours. Recently he had an influenza vaccine following which he had developed a local hypersensitivity and subsequently serum sickness like reaction that had now resolved.

Physiological exam was unremarkable. Laboratory findings were pertinent for significant elevation of creatinine from baseline. Urine analysis was consistent with hematuria and revealed coarse casts and proteinuria. He had normal complement levels. Hepatitis B, hepatitis C, and HIV serology was negative. There was no evidence of cryoglobulinemia. ANA profile was negative; anti-glomerular basement membrane antibody and Anti-streptolysin O testing was negative. He was hyper-gammaglobulinemic but with no monoclonal bands. He had an ANCA titer which was weakly positive for PANCA. He had a mildly elevated MPO but PR3 was negative Kidney biopsy revealed pathology consistent with the diagnosis of focal segmental and crescentic glomerulonephritis of pauci-immune type. He was treated with pulse dose of intravenous steroids and plasmapheresis with significant improvement of hematuria and kidney functions.

Discussion

Influenza vaccinations are by and large considered safe for general population including patients with autoimmune disease. Side effects of the injection vaccine include soreness at the site of the injection, muscle aching, fever, and generalized malaise [1]. Among the autoimmune reactions one very rare entity that has been reported to the Vaccine Adverse Events Reporting System since its inception in 1990 is Guillain-Barré syndrome [2]. In the literature different subtypes of vasculitis have been occasionally reported after influenza vaccination in the form of case reports and series. Several trials in patients with preexisting auto-immune disease however failed to indicate an increased risk for disease recurrence after the vaccination but these investigations might be underpowered to detect this very rare but relevant side effect. Similarly Reports of ANCA associated vasculitis relapses after influenza vaccinations have been reported in the literature, however per a retrospective study by Stassen et al, no increased frequency of relapses, however, was seen in vaccinated versus non vaccinated population [3]. Nevertheless expert opinion suggesting that vaccination might not be safe when the vasculitic disease process is active does exist and there are case reports of fatal relapses if the vaccinations are given during an active attack[4]. Very few cases in literature report a new episode of ANCA associated vasculitis after influenza vaccination. In any instance due to mostly retrospective or observational nature of the cases reported, an association where established cannot prove a causal relationship.

References


(continued)