Vaccination in adults with autoimmune rheumatic diseases

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1 Vaccination status should be assessed at diagnosis and periodic examinations in patients with rheumatic diseases

Patients with rheumatic disease have 1.4–2.0 times the risk of infection as the general population.[1] Although vaccination is recommended for all patients with rheumatic disease, uptake is suboptimal.[2]

2 Inactivated vaccines are safe and generally effective in patients receiving disease-modifying antirheumatic drugs

Inactivated vaccines, including influenza, pneumococcal, tetanus, human papillomavirus, *Haemophilus influenzae* type B, meningococcal and hepatitis A and B, are safe in patients receiving conventional synthetic disease-modifying antirheumatic drugs (DMARDs) and biologic DMARDs.[2] Data on vaccine response in patients receiving DMARDs are limited. Meta-analysis suggests diminished response to pneumococcal vaccination with methotrexate but not tumour necrosis factor inhibitors.[3]

3 Ideally, vaccination administration should be completed before treatment and during stable disease, but do not unduly delay or hold DMARD treatment

Although no studies have compared vaccination efficacy and harms in stable and unstable rheumatic disease, vaccination should start when symptom burden and inflammatory markers are low, ideally 2 weeks or more before DMARD initiation.[2] Although studies of activity showed no more vaccine-associated disease flares in patients with moderate to severe disease than in an unvaccinated control group, this remains a theoretical risk.[4]

4 Live vaccines should be avoided in patients receiving biologic DMARDs

Live vaccines including herpes zoster (Zostavax), measles–mumps–rubella, poliomyelitis and varicella should be given 4 weeks before starting biologic DMARDs and avoided in patients already receiving biologic DMARDs.[2] If benefits outweigh risks, biologic DMARDs can be suspended and the live vaccine administered based on the biologic DMARD's pharmacokinetic properties.[2] For example, for biologic DMARDs such as rituxamab (a B cell therapy given every 6 mo), inactivated vaccines should be given 5 months or more after the last dose and at least 4 weeks before the subsequent dose.[2] Clinicians should consider vaccinations indicated for future travel before immunosuppression.

5 All vaccinations can be given on the same day

If no contraindications exist, patients can be vaccinated at a single visit according to local immunization schedules and risk factors (Appendix 1, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190345/-/DC1). Both serious and mild adverse events such as nausea, fever and myalgia occur at rates similar to those in people without autoimmune disease.[5]

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