

In Conversation: Let's talk Autoimmune illness

with
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What are autoimmune diseases?

Autoimmune illness/diseases represent an illness where the body turns on itself. It is a hiccup to a normal immune response which is part of our natural protective mechanisms. Auto in this case means self, so in autoimmune illness there is a self-targeted immune response resulting from poor regulation of the mischief cells that we all have in our body. These mischief cells have the potential to target self-structures such as cells, organs and tissues, they are normally kept in check by the body but in people with autoimmunity the self-directed mischief is not controlled so inflammation can occur in a range of body organs and structures including skin, joints and internal organs.

How would you collectively define them?

Collectively, they are a group of conditions that basically target self-structures and the commonest manifestations would include various forms of inflammatory conditions, which can cause arthritis, various sorts of skin rash and problems with virtually any organ system, the potential manifestations are multiple. Autoimmune illness is complex and multifaceted and can range from mild to severe and life threatening. In most cases it can be well managed with a focus on reducing inflammation and reducing organ damage.

What is the most common types of autoimmune type conditions in Australia?

Autoimmune conditions affect 1 in 20 Australians which means that more than 1,000,000 Australians are affected by these conditions. Unfortunately this imposes a huge burden on personal health but also on the economy, costing more than \$20 million dollars each year. Approximately a third of 1,000,000 Australians affected will have more than one condition in the autoimmune spectrum as the conditions often occur in clusters. Unfortunately the burden disproportionately affects females where for every 10 autoimmune sufferers, 9 are often women. Because the diagnosis is not readily apparent, people experiencing symptoms often have multiple medical visits, an average of 5 doctors in 5 years, before a diagnosis is made.

There are up to 100 autoimmune subtypes but the commonest ones would include Rheumatoid Arthritis, which affects about 1% of the population, autoimmune thyroid disease affecting 3% of the population, coeliac which is known as a gluten triggered condition however it is an autoimmune response, it affects 1 in 100, lupus or systemic lupus erythematosus has rates ranging from 1 in 700 to 1 in 1,000. The list goes on and on to include type 1 diabetes, MS, scleroderma, vasculitis and Sjögren's Syndrome.



Does this reflect a wider, global trend or does it differ country to country?

There is evidence of a rising prevalence of immune disorders over the last three decades which seems to be reflected across most of the world, but perhaps more defined in developing countries. This has led to the concept of hygiene being a contributor to immune disturbance, perhaps some early life factor that would normally cause the immune system to develop and mature is lacking. There is also renewed interest in the constitution of our own flora, the bugs that we carry around with ourselves, that may be different across populations with theories around different signals not keeping the mischief cells in check.

Do we know what triggers autoimmune conditions? Do people have genetic pre-dispositions to some forms?

Lupus and other autoimmune conditions are not strictly passed on from parent to child but a genetic disposition is seen where various forms of immune misbehaviour can run through families. It may manifest in different ways at different levels, so perhaps allergy on one level, recurrent infections at the next generation and autoimmunity in the following one. There are certain well-defined genes which may predispose an individual to inflammation. In most cases of autoimmunity we don't know the trigger. They are generated by multiple genetic contributors as well as a lot of environmental factors which include hygiene, microbe flora, but may also include things such as drug exposure, hormones, stress and sunshine.

Have there been any recent medical discoveries/advancements/treatment options in relation to autoimmune diseases?

There have been two major areas of improvement in treatment of autoimmune problems. First of all, the adapting of old therapies for new purposes. The most notable is the use of the old anti-malarial drug, Hydroxychloroquine (Plaquenil), which is increasingly being used in earlier forms of autoimmune problems, particularly lupus. Recently, Mycophenolate the transplant drug, has been translated across with great benefit for some lupus patients. Another drug used for chemotherapy and other conditions including leukaemia called Rituximab, is being adapted for lupus and other patients. Targeted therapies are being attempted so far with some promising results including a group of drugs called the tyrosine kinase inhibitors. The research is happening with clinical trials occurring this will probably lead to a lot more advances in the future.

Not all auto-immune diseases are degenerative/have a life sentence, but what conditions are the most serious/topically terminal?

We would hesitate to label any of the conditions terminal although the complications some of these conditions can result in can be quite challenging. Any autoimmune problem that inflames the vessels, including vasculitis, can cause a threat to any organ system and have potentially severe consequences. The cardiac and renal systems can be commonly affected with managing complications in the heart and kidneys being the most important challenging to treat. Inflammatory conditions such as these range from mild to quite severe, but the treatments that we offer are about managing long term damage to the organs. Managing and reducing chronic inflammation is one of the main components of treatment and in doing this we can help reduce many of the longer term consequences of these processes. It's known for example that people with lupus and rheumatoid have a higher likelihood of cardiac and vascular disease and this is partly due to inflammation. We can attend to that with appropriate lifestyle and pharmacological approaches that will improve the long term outcomes.

What about the importance of education and self-management, does this help with management?

Living with any chronic disease be it autoimmune or other conditions does require a positive, empowered and educated approach which involves being proactive and an active participant in the daily management of symptoms. It is important that a team approach is taken where the adoption of an equal partnership with the patient. It is important for the patient to be an active partner decisions in any management plan. So I would suggest that the role of patient education in active participation is critical. Being informed leads to better management and improve quality of life overall. Learning about strategies to address symptom impacts and living a healthier lifestyle helps to reduce the burden of illness that many people living with autoimmune illness experience.

