Autoimmune diseases

Autoimmune diseases are a broad range of related diseases in which a person’s immune system produces an inappropriate response against its own cells, tissues and/or organs. This results in inflammation and damage. There are over 80 different autoimmune diseases, ranging from common to very rare. These diseases can be localised to a single organ or tissue, or generalised (systemic), affecting many body organs and tissues.

Autoimmune diseases include common and rare diseases

Autoimmune diseases affect around 5% of people and are one of the most important health issues in Australia and New Zealand. Common autoimmune diseases such as thyroiditis, rheumatoid arthritis and diabetes affect more than 1% of people. SLE (lupus) affects less than 0.1% of people and is more common and severe in Indigenous Australians, Polynesians and those with descendants from South East Asia.

What causes autoimmune diseases?

The causes of autoimmune diseases are unknown. In many cases it appears that there is some inherited tendency. However other factors such as infections and some drugs may play a role in triggering autoimmune diseases.

How are autoimmune diseases diagnosed?

Autoimmune diseases are usually diagnosed using a combination of clinical history, blood tests (autoantibodies, inflammation, organ function) and other investigations such as x-rays. Sometimes a biopsy of affected tissues may be required for diagnosis.

Localised (organ specific) autoimmune diseases

Whilst localised (organ specific) autoimmune diseases mainly affect a single organ or tissue, the effects frequently extend to other body systems and organs. These diseases are often managed by organ-specific medical specialists, such as endocrinologists, gastroenterologists, neurologists or rheumatologists.

Systemic autoimmune diseases

Systemic autoimmune diseases can affect many body organs and tissues at the same time. They can be broadly classified into rheumatological disease and vasculitis disorders (inflammation of blood vessels). These diseases are often managed by clinical immunology/allergy specialists and/or rheumatologists. Vasculitis disorders are relatively rare and result from inflammation of blood vessels. Information on vasculitis is available on the ASCIA website www.allergy.org.au/patients/autoimmunity

Examples of localised (organ specific) autoimmune diseases

<table>
<thead>
<tr>
<th>Addison's disease (adrenal)</th>
<th>Hashimoto's thyroiditis (thyroid)</th>
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<tbody>
<tr>
<td>Autoimmune hepatitis (liver)</td>
<td>Multiple sclerosis (nervous system)</td>
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<tr>
<td>Coeliac disease (gastrointestinal tract)</td>
<td>Myasthenia gravis (nerves, muscles)</td>
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<td>Crohn's disease (gastrointestinal tract)</td>
<td>Pernicious anaemia (stomach)</td>
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<td>Diabetes Mellitus Type 1a (pancreas)</td>
<td>Primary biliary cirrhosis (liver)</td>
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<td>Grave's disease (thyroid)</td>
<td>Sclerosing cholangitis (liver)</td>
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<tr>
<td>Guillain-Barre syndrome (nervous system)</td>
<td>Ulcerative colitis (gastrointestinal tract)</td>
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Examples of rheumatological systemic autoimmune diseases

- Antiphospholipid antibody syndromes (blood cells)
- Dermatomyositis (skin, muscles)
- Mixed connective tissue disease
- Polymyalgia rheumatica (large muscle groups)
- Polymyositis (skin, muscles)
- Rheumatoid arthritis (joints, less commonly lungs, skin, eyes)
- Scleroderma (skin, intestine, less commonly lungs, kidneys)
- Sjögren's syndrome (salivary glands, tear glands, joints)
- Systemic Lupus Erythematosus (skin, joints, kidneys, heart, brain, red blood cells, other)

Treatment options for autoimmune diseases

Currently there are no cures for autoimmune diseases, although there is a wide range of treatment options, which depend on the stage and type of autoimmune disease. The main aims of treatments for autoimmune diseases are to relieve symptoms, minimise organ and tissue damage and preserve organ function.

Treatment options include:
- Replacement of end organ functions (such as insulin in diabetes and thyroxine in autoimmune thyroid disease)
- Non-steroidal anti-inflammatory medications (NSAIDS)
- Corticosteroid anti-inflammatory medications (such as Prednisolone)
- Immunosuppressive medications
- Therapeutic monoclonals (such as TNF inhibitors)
- Immunoglobulin replacement therapy.

What happens if I have an autoimmune disease?

There are many different autoimmune diseases with different treatments and consequences for people with these diseases. It is important to find out as much as possible about your autoimmune disease by asking questions of your treating doctor.

There are also many patient support organisations and foundations that offer information and support. Some of these are listed on the ASCIA website www.allergy.org.au/patients/patient-support-organisations

You can learn about autoimmune disease from books and the internet, however you need to be aware that what is actually written may not apply to you, and you should always check the information with your doctor.

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ASCIA is the peak professional body of clinical immunology/allergy specialists in Australia and New Zealand

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