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Sarcoidosis and immune-mediated inflammatory diseases

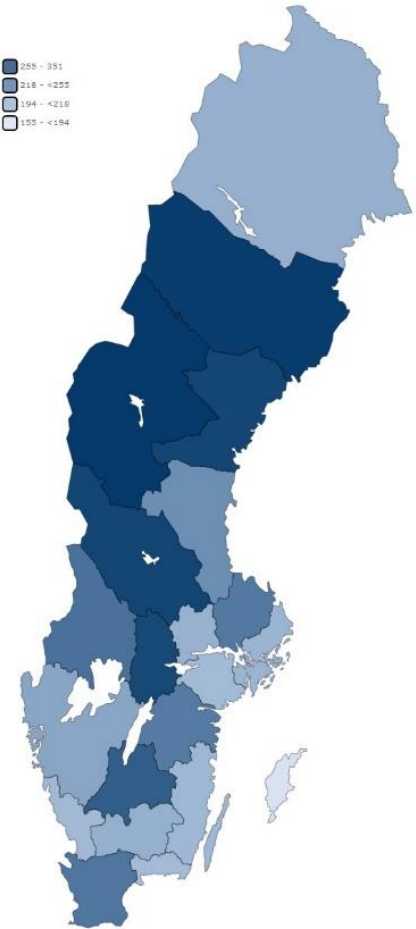
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Sweden's history of record-keeping



- Sweden was the 1st country to introduce a national system of registration to monitor population growth and vital statistics
- Today we have Nationwide population-based registers
 - Patient Register, Prescribed Drug Register, etc.

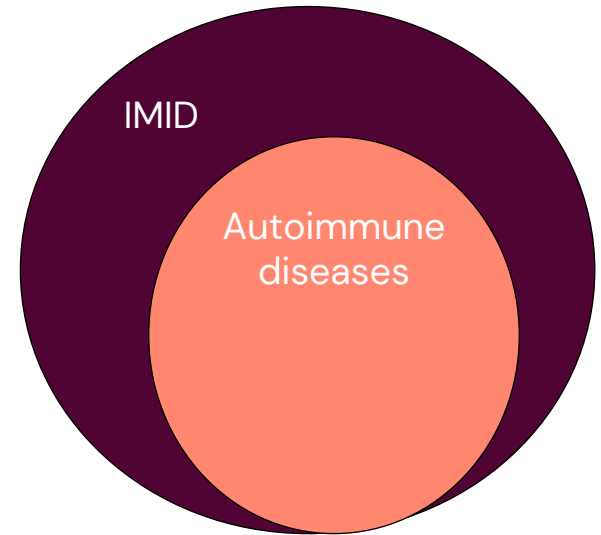
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Swedish No.	118	139	145	269	460
Swedish No.	57	115	103	194	358
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Swedish No.	Swedish No.	Swedish No.	Swedish No.	Swedish No.
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Swedish No.	1136	1153	1378	1294
Swedish No.	1317	1424	2188	2118
Swedish No.	2259	1742	1439	789
Swedish No.	620	15510		

Sarcoidosis is an immune-mediated inflammatory disease (IMID)

- **Immune-mediated inflammatory diseases:** a group of diseases that involve an immune response that is inappropriate or excessive
- Most of these diseases are **autoimmune diseases** – the immune system attacks its own tissue
 - It is still unknown whether sarcoidosis is an autoimmune disease or not



Do sarcoidosis and autoimmune diseases overlap?

- Sometimes due to misdiagnosis
 - Some autoimmune diseases can be difficult to diagnose
- Difficult to study due to small numbers

Most studies show a consistently higher risk of autoimmune disease in sarcoidosis patients

Neurological

Multiple sclerosis [13,14,16]

Thyroid

Autoimmune thyroid disease [14,15,20]
Graves' disease [20]

Liver

Autoimmune hepatitis [13,14]
Primary biliary cholangitis [13]

Connective Tissue

Ankylosing spondylitis [13,15,18]
Psoriatic arthritis [13]
Rheumatoid arthritis [16]
Systemic sclerosis [13]
Sjögren's syndrome [13,15,16]
Systemic lupus erythematosus [13,14,16]
Vasculitis [14,15]

Haemopoietic

Antiphospholipid syndrome [13]
Haemolytic anaemia [13]
Immune thrombocytopenia [13]

Other

Amyloidosis [13]
Combined variable immunodeficiency [13]
Familial Mediterranean fever [13]
IgA deficiency [13]
Inflammatory myopathies [13]

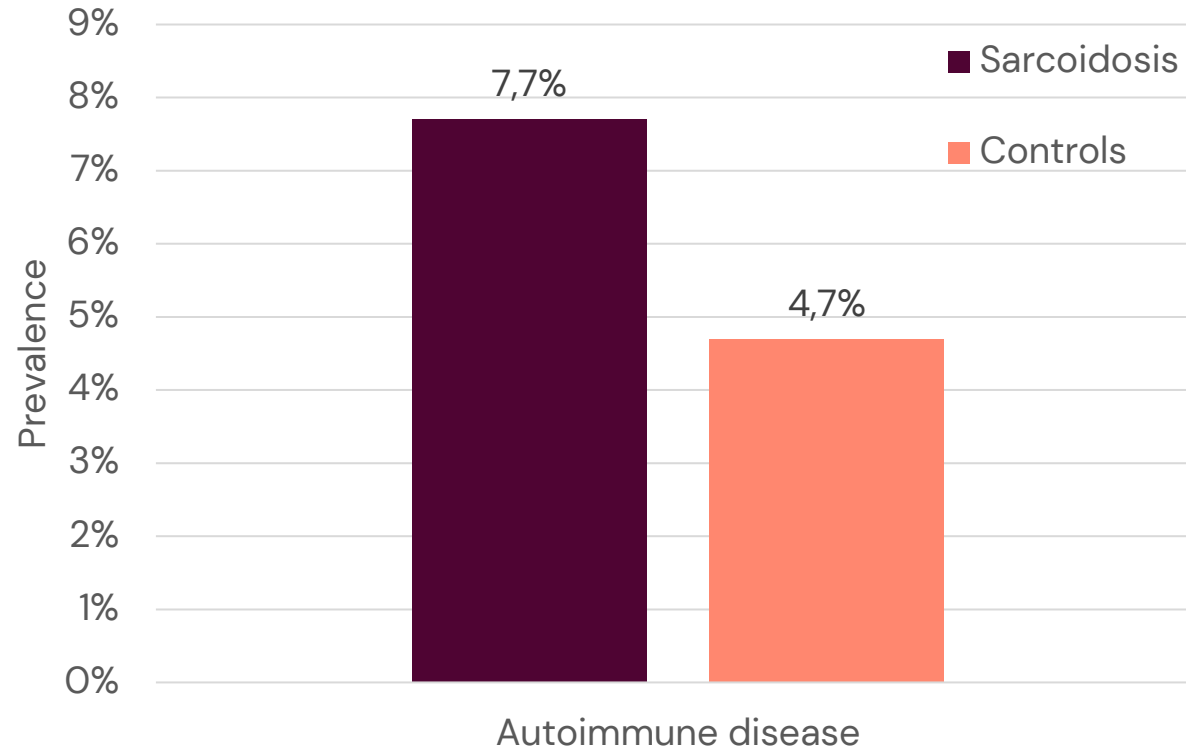
Gastrointestinal

Celiac disease [10,14,19,21]
Chronic atrophic gastritis [13]
Crohn's disease [8,9]
Ulcerative colitis [8,9,14]

Cutaneous

Alopecia areata [16]
Psoriasis [17]
Vitiligo [16]

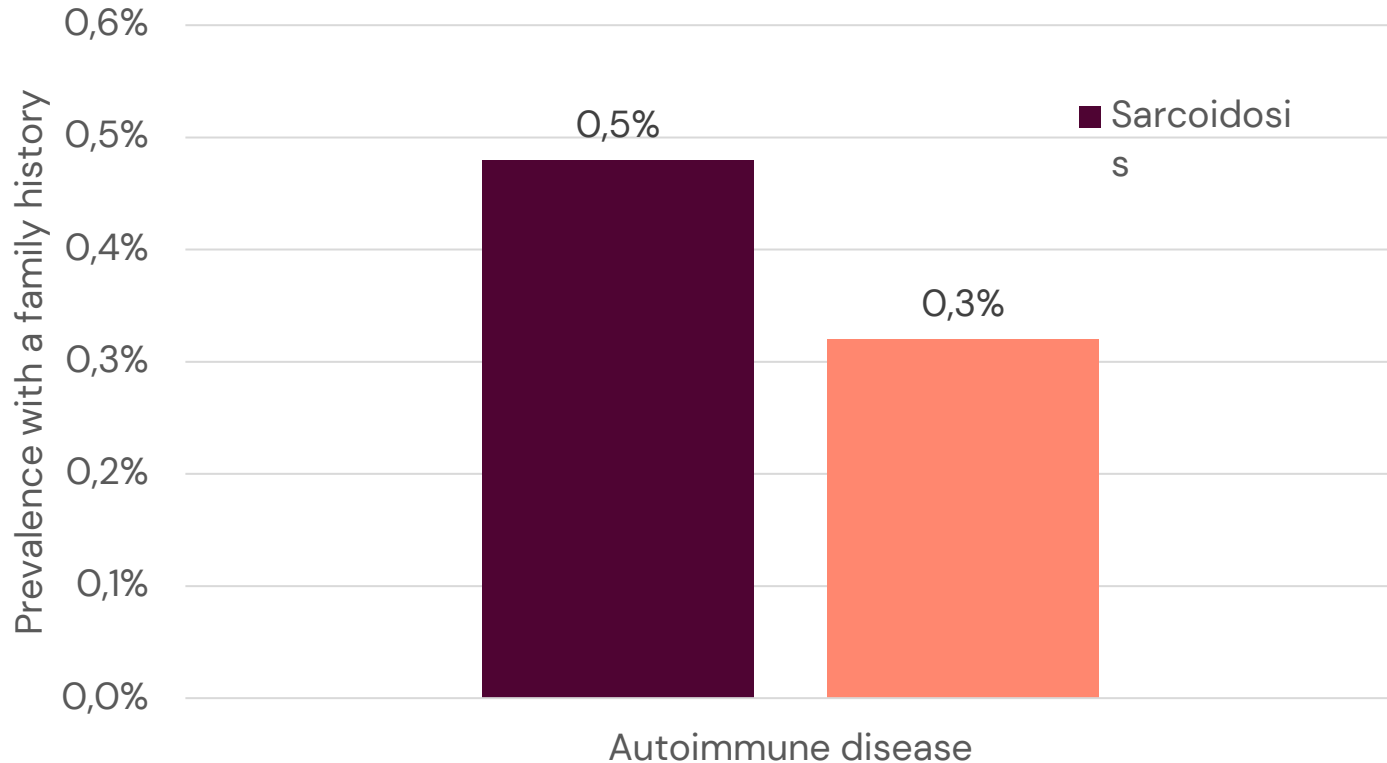
Individuals with sarcoidosis are more likely to have an autoimmune disease



Sarcoidosis and myositis occur more often in the same individual

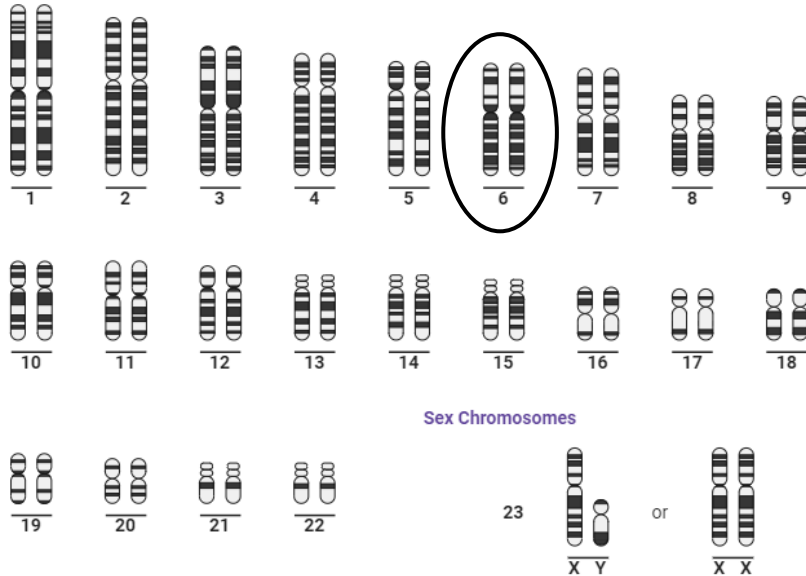
- 0.06% of sarcoidosis patients have myositis compared with 0.02% of controls
 - Myositis occurs four times more often in sarcoidosis patients than in people without sarcoidosis

Family members of sarcoidosis patients are more likely to have an autoimmune disease



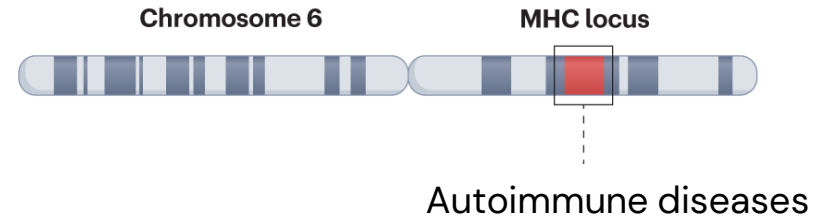
Genetics

Autosomal Chromosomes

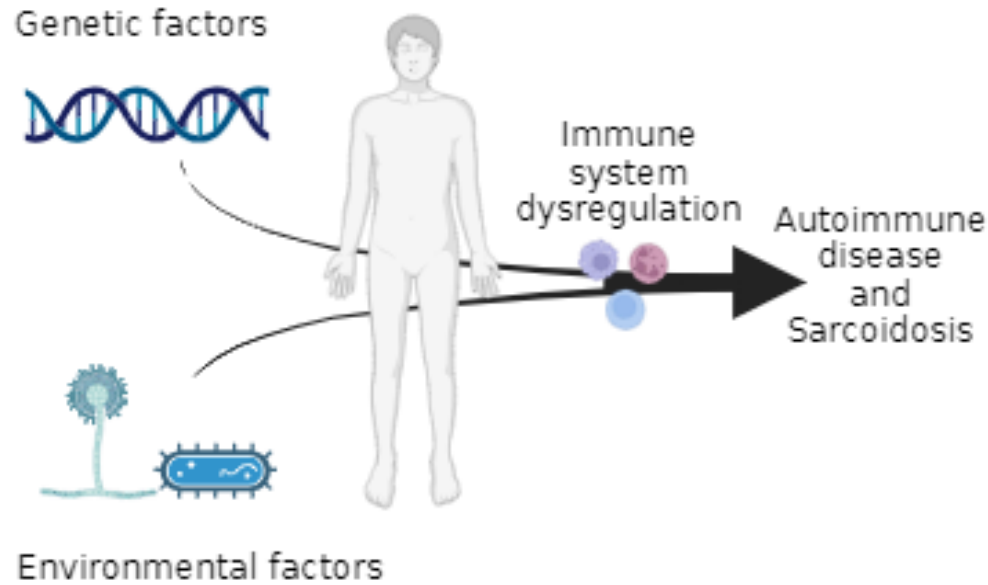


Many gene variants are located on chromosome 6 which are important for the immune system's function

- One region codes for ≈ 200 diseases
- Many of these diseases are autoimmune diseases, and include sarcoidosis and myositis



Environmental (non-genetic) factors are also important in sarcoidosis and myositis



What can we learn from the relationship between autoimmune diseases and sarcoidosis?

Causes

Is sarcoidosis
an
autoimmune
disease?

Improve diagnosis

Does family
history
information
help to
diagnose
sarcoidosis?

Improve treatment

Should
sarcoidosis
patients with
a history of
autoimmune
disease
receive
different
treatments?

Thank you!

 bit.ly/SarcoidEpi

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