What happens when a small number of body soldiers (the antibodies) confront a numerous caravan of intruders (the antigens) in battle inside our body?. Meet hypersensitivity: immune complex reactions for the answer and don’t forget to take our quiz after reading.

Contents

- 1 Arthus
- 2 Lupus
- 3 Rheumatoid arthritis
- 4 Serum sickness
- 5 Henoch-Schönlein Purpura
Hypersensitivity: immune complex reactions is also known Type III hypersensitivity. This type of hypersensitivity is a very slow reaction. It takes up to hours, days or even weeks before its full development. It occurs when there are little antibodies combating against excess antigens in the body. When little amount of antigen combats numerous antibodies, immune complexes are formed. These complexes then fix complement protein fragments: C3a and C5a, thus leading to inflammation and many other symptoms. Complement fragments fixed by immune complexes are known as anaphylotoxins.

The fixation of complement C3a and C5a by the immune complexes lead to diverse of autoimmune diseases.

There are two types of immune complexes formed in the body:
Large immune complexes can be cleared in the circulation by macrophages but the small immune complexes are difficult to clear in the system. The immune complexes move into the blood vessels, joints and glomeruli where they fix complements and cause inflammation.

Autoimmune diseases associated with hypersensitivity: immune complex reactions (type II hypersensitivity) include:

1. Arthus diseases
2. Henoch-Schönlein Purpura
3. Lupus
4. Rheumatoid arthritis
5. Serum sickness

**Arthus**

This health condition occurs when an antigen is injected intentionally into a body, often resulting into edema (swollen skin). Occurrence of Arthus is often observed while working with experimental animals.

**Lupus**

This is an auto immune disease implicated with painful and swollen joints, fever, chest pain, mouth ulcer, fatigue and basically rash on the face.
Rheumatoid arthritis

This is an autoimmune disease associated with swollen and painful joints. This disease may also affect other parts of the body and cause deformities.
Serum sickness

Is a reaction that results from the injection of foreign protein or serum from a non-human source (from animals) into the human body.
Henoch-Schönlein Purpura

Henoch- Schönlein Purpura is a skin disease resulting from the inflammation of the small blood vessels of the skin, joint, gastrointestinal tract (GI), and kidney.

See Also:

- INTRODUCTION TO IMMUNOLOGY
- IMMUNOLOGY: FIRST LINE OF DEFENSE
- IMMUNOLOGY: SECOND LINE OF DEFENSE
- Immunology: the antibodies
- IMMUNOLOGY: UNDERSTANDING THE COMPLEMENT SYSTEM
- HYPERSENSITIVITY: ANAPHYLACTIC REACTIONS
- HYPERSENSITIVITY: CYTOTOXIC REACTIONS


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