

MEDICAL ENCYCLOPEDIA: ANCA

There are several types of small-vessel vasculitis and they are all related. Now an animal model proves that some types of ANCA can cause vasculitis, with new research in this area currently underway.

What are ANCA? ANCA cause neutrophils and monocytes (white blood cells) to damage blood vessels. ANCA are autoantibodies found in small-vessel vasculitis: Anti-Neutrophil Cytoplasmic Antibodies. These words mean that there is an antibody to the cytoplasm of neutrophils. ANCA are present in several types of small-vessel vasculitis, including microscopic polyangiitis, Wegener's Granulomatosis and Churg-Strauss syndrome.

Let's look at the meaning of these words:

- **Anti-** means "against."
- **Neutrophils** are a type of white blood cell containing granules filled with potent chemicals that fight infection. These chemicals play a key role in acute or inflammatory reactions.
- **Cytoplasmic** refers to the part of the cell outside the nucleus or center of the cell.
- **Autoantibodies** are proteins secreted by a type of immune cell that recognizes foreign substances.

ANCA are used to help in the diagnosis of small-vessel vasculitis. ANCA react to two chemicals inside normal neutrophils. These two chemicals are called myeloperoxidase (the protein that makes pus green) and proteinase 3 (an enzyme that chews up elastic tissue).

You may have one of two types of ANCA:

1. ANCA directed against myeloperoxidase- called myeloperoxidase ANCA, which is sometimes referred to as "MPO-ANCA."
2. ANCA directed against proteinase 3-called proteinase 3 ANCA, which is sometimes referred to as "PR3-ANCA."