



## Overview on Mixed Connective Tissue Diseases

**Bobby Chen\***

*Department of Pathology, University of Texas, Austin, USA*

### Introduction

The body's structures are held together by connective tissues [1]. Collagen and elastin are the two proteins that make them up. Tendons, ligaments, skin, cartilage, bone, and blood vessels all contain collagen. Elastin is a protein present in the skin and ligaments. When the connective tissues in the body become inflamed, it might affect the proteins and the surrounding areas.

Connective tissue disorders come in a variety of forms, including:

#### Rheumatoid Arthritis (RA)

Rheumatoid arthritis is a type of connective tissue disease that can be passed down in families [2]. RA is an autoimmune illness, which means the body's immune system assaults itself. Immune cells attack and inflame the membrane around joints in this systemic illness. It can also harm the heart, lungs, and eyes. Women are affected far more than men (an estimated 71 percent of cases).

#### Scleroderma

An autoimmune disease characterised by the formation of scar tissue in the skin, internal organs (including the gastrointestinal tract), and small blood vessels [3]. It affects women three times more frequently than males throughout their lives, with a rate 15 times higher for women during their reproductive years.

#### Granulomatosis with polyangiitis

A type of vasculitis (blood vessel inflammation), that affects the nose, lungs, kidneys, and other organs.

#### Churg-strauss syndrome

This is an autoimmune vasculitis that affects cells in the lungs, gastrointestinal tract, skin, and nerves.

#### Microscopic Polyangiitis (MPA)

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MPA is an autoimmune illness that affects cells in blood arteries throughout the body's organs. This is a very uncommon ailment.

#### Churg-strauss

Syndrome is an autoimmune vasculitis that affects cells in the lungs, GI system, skin, and nerves.

#### Systemic Lupus Erythematosus (SLE)

Inflammation of connective tissue in all of the body's organs, including the brain, skin, blood and lungs, it affects nine times the number of women as it does men [4].

#### Undifferentiated connective tissue disease(s)

Conditions that exhibit connective tissue disease characteristics but do not fit the parameters as stated at a given time. Some persons with these disorders will acquire a specific type of mixed connective tissue disease in the future, but the majority will not [5].

These illnesses are known as heritable connective tissue disorders and can be caused by family heredity. Environmental factors can also play a role in the development of mixed connective tissue diseases [6]. The following are examples of non-inherited causes of autoimmune connective tissue disease:

- Toxic chemical exposure, such as that found in smog and cigarette smoke.
- Ultraviolet light exposure.
- Poor nutrition, particularly a deficiency in vitamins D and C.
- Infections

#### Connective tissue disease symptoms

Because there are so many types of connective tissue illnesses, symptoms can change and affect different sections of the body [7]. The following body parts may be affected:

- Bones
- Joints
- Skin
- The circulatory system, including the heart and blood arteries.
- Lungs (Some disorders, such as the ones listed above, can lead to major pulmonary problems).
- The head and the face (Some of these conditions can cause the face, head, eyes, and ears to appear different from other people's faces and heads).
- Height (Some diseases lead people to become exceedingly tall or very short as a result of their symptoms).

Because there are so many distinct types of connective tissue disorders, treatment options vary based on the individual and the disease [8]. Vitamin supplements, physical therapy, and pharmaceuticals may be used as treatments. Your doctor's appointments will most likely be on a regular schedule for you. Depending on the sort of connective tissue illness you have, you may be advised to visit with experts such as eye doctors or dermatologists.

You may be able to avoid toxic exposures and eat healthful foods that meet your vitamin and nutritional requirements. Inherited disorders, on the other hand, cannot be prevented.

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