Raynaud Syndrome

Definition:

Raynaud syndrome, a functional peripheral artery disease, is a condition in which small arteries (arterioles), usually in the fingers or toes, narrow (constrict) more tightly than normal in response to exposure to cold.

- Constriction of small arteries causes fingers (or toes) to become pale or bluish, numb, and tingle.
- Doctors can often make a diagnosis on the basis of the person's symptoms.
- Keeping warm, avoiding smoking, and sometimes taking drugs may help.

TYPES

Raynaud syndrome may be

- Primary, meaning no cause is apparent (also called Raynaud disease)
- Secondary, meaning a cause can be identified (also called Raynaud phenomenon)

Primary Raynaud syndrome

Primary Raynaud syndrome is much more common than secondary Raynaud syndrome. Between 60% and 90% of cases of primary Raynaud syndrome occur in women aged 15 to 40.

Anything that stimulates the sympathetic division of the autonomic nervous system, particularly exposure to cold but also strong emotion, can cause arteries to constrict and thus trigger primary Raynaud syndrome.

Secondary Raynaud syndrome

Secondary Raynaud syndrome may be caused by

- Systemic sclerosis
- Rheumatoid arthritis
- Atherosclerosis
- Cryoglobulinaemia
- Underactive thyroid gland (hypothyroidism)
- Injury

- Reactions to certain drugs, such as beta-blockers, clonidine, and the antimigraine drugs ergotamine and methysergide

Use of such drugs, which constrict blood vessels, can also make Raynaud syndrome worse. Some people with Raynaud syndrome also have other disorders that occur when arteries are prone to constriction. These disorders include migraines, variant angina (chest pain that occurs while at rest), and high blood pressure in the lungs (pulmonary hypertension). The association of Raynaud syndrome with these disorders suggests that the cause of arterial constriction may be the same in all of them.

Symptoms

Constriction of small arteries in the fingers and toes begins quickly, most often triggered by exposure to cold. It may last minutes or hours. The fingers and toes become pale (pallor) or bluish (cyanosis), usually in patches. Only one finger or toe or parts of one or more may be affected. The fingers or toes usually do not hurt, but numbness, tingling, a pins-and-needles sensation, and a burning sensation are common. As the episode ends, the affected areas may be redder than usual or bluish. Rewarming the hands or feet restores normal color and sensation.

If episodes of Raynaud syndrome recur and are prolonged (especially in people with systemic sclerosis), the skin of the fingers or toes may become smooth, shiny, and tight. Small painful sores may appear on the tips of the fingers or toes.

White areas (pallor) are caused by absence of blood flow due to narrowing of blood vessels. The white areas develop irregularly in the fingers.

The blue areas (cyanosis) at the tips of the fingers are caused by decreased oxygen in the blood because of sluggish blood flow due to partial narrowing of the blood vessels.

Diagnosis

- A doctor's evaluation of symptoms
- Sometimes Doppler ultrasonography

Usually, doctors suspect Raynaud syndrome on the basis of symptoms and results of the physical examination. Often, no procedures are needed to make the diagnosis. If doctors suspect an artery is blocked, Doppler ultrasonography may be done before and after the person is exposed to cold. Doctors may also order blood tests to check for conditions that can cause Raynaud syndrome.

Treatment

- Avoiding triggers such as cold and stress
- Smoking cessation

- **Drugs**

People can control mild Raynaud syndrome by protecting their head, trunk, arms, and legs from cold. For those who experience symptoms when they get excited, mild sedatives or biofeedback may help. People who have the disorder must stop smoking because nicotine constricts blood vessels.
Primary Raynaud syndrome is commonly treated with a calcium channel blocker, such as nifedipine or amlodipine. Prazosin may also be effective.
For people with secondary Raynaud syndrome, doctors treat the disorder causing it.

Sympathectomy, a procedure in which certain sympathetic nerves may be temporarily blocked (by injection of a drug such as lidocaine) or even cut, may be used to relieve the symptoms of Raynaud syndrome if the disorder becomes progressively disabling and other treatments do not work. However, even when this procedure is effective, relief may last only 1 to 2 years. This procedure is usually more effective for people with primary Raynaud syndrome than for those with secondary Raynaud syndrome.