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B. SC II YEAR

RAYNAUD'S DISEASES

RAYNAUD'S PHENOMENON

DEFINITION

Raynaud's phenomenon is a condition in which cold temperatures or strong emotions cause blood vessel spasms that block blood flow to the fingers, toes, ears, and nose.

CAUSES

- Diseases of the arteries, such as atherosclerosis and Buerger's disease, which is associated with smoking
- Cigarette smoking
- Age in women (Raynaud's tends to occur between the ages of 20 - 40, although secondary Raynaud's tends to occur later)
- Occupation (for example, using vibrating tools such as chain saws and jackhammers)
- Using some medications, including some cancer drugs, narcotics, and over-the-counter cold medications
- Previous frostbite
- Repetitive physical stress (for example, typing or playing the piano)
- Carpal tunnel syndrome
- Other medical conditions, such as rheumatoid arthritis, scleroderma, systemic lupus erythematosus (SLE or lupus), and carpal tunnel syndrome.

PATHOPHYSIOLOGY

In individuals with Raynaud phenomenon, one or more body parts experience intense vasospasm with associated color change and subsequent hyperemia. Patients often describe **3 phases** of change with initial **white (vasoconstriction)**, followed by **blue (cyanosis)**, and then **red (rapid blood reflow)**. The affected body parts are usually those most susceptible to cold injury.

CLINICAL MANIFESTATION

- Changes in skin color in the fingers or toes and sometimes in the nose, legs, or earlobes (may occur in three phases: white, blue, then red)
- Throbbing, tingling, numbness, and pain
- Deterioration of the pads on fingertips or toes
- Gangrenous ulcers near fingertips

DIAGNOSTIC STUDIES

- Health history

- vascular ultrasound and a cold stimulation test for Raynaud's phenomenon may be done to confirm the diagnosis.
- Different blood tests may be done to diagnose arthritic and autoimmune conditions that may cause Raynaud's phenomenon.

MANAGEMENT

Medications to relax the walls of the blood vessels. These include topical nitroglycerin, **calcium channel blockers**, such as nifedipine and diltiazem.

Alpha blockers -- help counteract the effects of norepinephrine, a hormone produced by the body that causes blood vessels to narrow. Alpha blockers include:

- Prazosin (Minipress)
- Doxazosin (Cardura)

Vasodilators -- open up blood vessels

SURGICAL PROCEDURES

In severe cases, a surgical procedure called sympathectomy, which cuts the nerves that open and close blood vessels, may be used.

lifestyle changes may help people with Raynaud's phenomenon:

- Stop smoking
- Avoid caffeine
- Stop and avoid medications that cause tightening or spasms of the blood vessels
- Keep the body warm. Avoid exposure to cold in any form. Wear mittens or gloves outdoors and when handling ice or frozen food. Avoid getting chilled, which may happen after any active recreational sport.
- Wear comfortable, roomy shoes and wool socks. When outside, always wear shoes.