CLINICAL VIGNETTE

The Red, White and Blue of Raynaud's

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A 21-year-old Caucasian female presented with finger pain. For a few years she noticed that her fingertips would hurt and become very pale whenever she was cold or stressed. They would appear somewhat bluish. As she rubbed her hands, the color would return to normal. She reported pins and needles sensation as they returned to normal. Past medical history includes depression under treatment and intermittent low back pain for a year. The back pain is moderate intensity across the small of her back, without radiation. It worsens during menses and responds to ibuprofen and acetaminophen. It has not limited her daily activities.

She feels well without swollen or tender joints, rashes, hair loss, dry eyes, dry mouth, fevers, shortness of breath, heartburn, mouth sores, or morning stiffness. She sleeps well and wakes up feeling rested. Weight and appetite are stable.

Medications include: acetaminophen 1,000 mg every 6 hours as needed; diclofenac gel as needed; sertraline 50 mg daily and vitamin D 1000 IU daily.

No one in her family had similar symptoms with cold exposure. Mother had migraines, Hashimoto's thyroiditis, and renal stones and her father had hypertension and hyperlipidemia.

On exam she was afebrile, with blood pressure of 91/61 mmHg, and pulse 79/min. There was no malar rash adenopathy, or synovitis. Pulses were normal and heart and lungs were normal. The abdomen was nontender. Skin turgor was normal. She is right handed and displays a normal motor and sensory exam. There is no sacroiliac tenderness. There is mild spasm in her lumbosacral paraspinal muscles and slight scoliosis.

Lab included: Normal complete blood count, comprehensive metabolic panel, creatine phosphokinase, thyroid stimulating hormone, complements 3/4, and urinalysis. Sedimentation rate 22 mm/hr (normal being up to 20 mm/hr). C-reactive protein 2.4 mg/L. Anti-nuclear antibody 1:1280, speckled pattern. Negative HLA-B27, anti-DsDNA, extractable nuclear antigen, SSA/SSB, anti-cardiolipin, anti-beta-2-glycoprotein, rheumatoid factor/cyclic citrullinated peptide, SCL-70, and anti-centromere. Thyroid peroxidase 23.2 IU/mL (normal < than 20 IU/mL).

Raynaud's phenomenon is a condition in which the digital arteries and cutaneous arterioles are hypervigilant to cold or stress or cigarette exposure. It is diagnosed when patients can describe two color changes with cold exposure or stress. The classic description of Raynaud's is triphasic with initial pallid extremities, then blue/purple, and finally red as the vasoconstriction is relieved and fresh blood accesses to the extremes of the digits. This needs to be distinguished from pernio which occurs in mostly the same sites and is also precipitated by cold conditions. However, pernio, has nodular lesions, papules, and plaques. These are not transient as the Raynaud's skin color changes.

Raynaud's is most often found in women between the ages of 15 and 30 years and may be found in family members.[1] Risk factors include female sex, manual occupation, migraine, smoking, and cardiovascular disease. It can begin in one finger and spread to the others and tends to be symmetrical. The index, middle, and ring fingers are the most frequently involved.

(Representative photograph of the pallor phase of Raynauds in the left hand)

Raynaud's may be categorized as primary or secondary. In primary Raynaud's there is no associated systemic rheumatic inflammatory disease and patients are otherwise considered healthy. Patients with secondary Raynaud's phenomenon frequently have lupus, systemic scleroderma, mixed connective tissue disease, Sjogren's syndrome, or polymyositis. Involvement of the thumb may imply that the Raynaud's is associated with a secondary condition.[2] The vasoconstriction of primary Raynaud's tends to be less severe than that of secondary Raynaud's.

This patient's history is typical of primary Raynaud's in terms of her age and sex, and also the stressors of cold exposures and stress that bring out the phenomenon. The color changes are relatively easily reversed with rubbing her hands together or placing the hands in her axillae. She has never had any tissue damage on her fingertips that might occurred with severe vasoconstriction. She had never noted involvement in her ears, face, nose, or knees. She was not taking any medication that might aggravate the condition such as sympathomimetics, ergotamines, estrogen, or narcotics.

Secondary Raynaud's may be suspected if the condition if the Raynaud's had started after 40 years of age, with more severe asymmetric attacks. Presence of autoantibodies, abnormal nailfold capillaries, or symptoms suspicious of an autoimmune disease.[3,4] The laboratory evaluation for this patient included the antibodies that might be associated with common auto-immune conditions associated with Raynaud's. Her review of systems did not suggest any other issues. The positive thyroid peroxidase antibody will need to be followed, given the history of Hashimoto's. Her current normal TSH, indicates no thyroid supplementation is needed.

Conservative approaches are frequently successful in primary Raynaud's. The patient should be alerted to keep the entire body warm, not just the extremities. This includes keeping the body and head warm when moving from a warmer temperature to a cooler one, such as a grocery store's frozen food section. Chemical warmers or battery-heated gloves are available. Smoking and the frequent use of vibratory tools should be avoided. One study, reported low body weight was associated with increased risk of Raynaud's phenomenon.[5]

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