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Hypermobility Syndrome

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Have you ever had a patient complain of recurring pain in numerous joints, or respraining of a particular (wrist) joint, who may or may not express an inflammatory picture, and has been to many other doctors without a definite diagnosis or helpful treatment? This patient may be suffering with a hypermobility syndrome (HMS).

Because other conditions may express joint hypermobility, and can be excluded by laboratory testing, HMS becomes a diagnosis of exclusion. Two conditions that definitely have joint hypermobility and are connective tissue disorders are Ehlers-Danlos and Marfan syndrome. These two conditions exhibit hyperelastic skin, hernias, lenticular abnormalities and abnormal body proportions.¹ Other conditions exhibiting hypermobile joints are rheumatoid arthritis, osteogenesis imperfecta, systemic lupus erythematosus, poliomyelitis, myotonia congenita, and some neurological conditions.

HMS patients have a gender-influenced dominant trait with an abnormality of type I collagen. The condition is more common in females. Type I collagen is the most common collagen and is contained in tendons, ligaments, joint capsules, skin, demineralized bone and nerve receptors.¹ Hypermobility of joints and spine is due to abnormal laxity of ligaments, joint capsules and intervertebral discs. Back patients with symptoms who do not develop osteoarthritis or disc degeneration usually experience spontaneous improvement with increasing age, thus losing their juvenile hyperlaxity. This usually occurs between 30 and 40 years of age. In HMS patients, too much activity causes pain.

Hypermobility *per se* is a state, not a disease, but it may lead to generalized arthralgia or localized symptoms (frequent ankle sprains, knee effusions, dislocations of the shoulders and recurrent episodes of back pain). Pain can occur even after minor strains, especially in young women.² HMS patients, besides having hypermobile joints, have decreased joint position sense, making them more vulnerable to minor damage. Reduced sensory feedback may lead to biomechanically unsound limb positions being adopted.

This mechanism may allow acceleration of degenerative joint conditions, and may account for the increased prevalence of such conditions seen with HMS subjects.³

HMS patients have more osteoarthritis; increased nerve compression disorders;⁴ chondromalacia patellae; excessive anterior mandibular movement;⁵ mitral valve prolapse;⁶ uterine prolapse; and varicose veins.² Larsson⁷ et al., state that patients with HMS who have a sedentary job have increased spinal pain.

Criteria for the diagnosis of HMS are:

1. passive thumb apposition to touch the forearm;
2. passive little finger hyperextension of more than 90 degrees;
3. elbow hyperextension of more than 10 degrees;
4. knee hyperextension of more than 10 degrees;
5. forward flexion of the trunk with the knees straight and the palms of the hands resting flat on the floor.

HMS is usually diagnosed in individuals who can perform three or more of these tests.⁸ Some clinicians include excessive ankle dorsiflexion and foot eversion in the criteria for HMS.

Patients with HMS may complain of symptoms from ages 3 to 70, which usually affect multiple joints over the years. "They typically lack the positive laboratory findings found in rheumatologic disorders and, in the absence of acute trauma, lack the radiologic changes, inflammation, swelling and decreased mobility typical of orthopedic pathology."¹ Unless they have specifically stressed a particular joint and created an inflammation, HMS patients do not respond to anti-inflammatory medication.

HMS patients must be educated about their body mechanics, posture and activities. Activities may have to be modified. Even splints, braces and taping may have to be used to protect vulnerable joints. ¹ Movement of the joints in the end-ranges should be discouraged. Stretching muscles rather than joints should be emphasized. Guided progressive strengthening exercises and balance boards for proprioceptive stimulation are recommended.

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