Thoracic Kyphosis (Round Back Deformity)
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Kyphosis, or round back deformity, is a curving or rounding of the thoracic spine. This can lead to a noticeable deformity and cause a hunching or slouching appearance. Causes of thoracic kyphosis vary and are often related to age. In a child, a congenital defect of the developing spine can result in a severe kyphotic deformity. In an adolescent, vertebral wedging can cause a kyphotic deformity known as Scheuermann’s disease. In an adult, the causes can be multiple: namely, infection (tuberculosis), Paget’s disease, neurofibromatosis or tumors. Osteoporosis with multiple vertebral body fractures can be a common cause, especially in postmenopausal women.

Symptoms may consist of mid-back pain of varying degrees, stiffness and general fatigue. If the deformity is severe, it can compromise the spinal cord function and breathing capacity.

In the evaluation of these patients, observation often reveals the presence of an exaggerated rounding of the thoracic spine. There may or may not be associated pain of various intensity on palpation. The neurological picture can vary depending on whether the spinal canal has been compromised. The neurological exam of the lower extremities should include the Babinski and clonus tests, which evaluate the long tracts of the spinal cord. Both X-rays and an MRI scan of the thoracic spine should be performed. A pulmonary function test may also be required in the evaluation of these patients.

Treatment in congenital kyphosis usually consists of surgery. Scheuermann’s kyphosis often responds to conservative treatment, physical therapy and possibly bracing. Surgery should be considered in curves greater than 60°. Infections and tumors require medical and oncological management. Aggressive surgical treatment is recommended in the presence of spinal instability to prevent further deformity progression and neurological compromise.

Kyphosis from osteoporotic fractures presents its own set of challenges. The medical management of osteoporosis needs to be assessed. Fracture treatment now consists of percutaneous placement of bone cement into the vertebral bodies to reduce pain and to stabilize the fractured vertebral body, preventing further compression and kyphosis. Long fusions of the thoracic spine in osteoporotic patients have added risks of surgical hardware complications because of soft bone, and medical complications because of comorbidities. These invasive procedures, although occasionally indicated, are considered the exception rather than the rule.

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