Stress fracture

Stress fractures are tiny cracks in a bone. Stress fractures are caused by the repetitive application of force, often by overuse — such as repeatedly jumping up and down or running long distances. Stress fractures can also arise from normal use of a bone that's been weakened by a condition such as osteoporosis.

Stress fractures are most common in the weight-bearing bones of the lower leg and foot. Track and field athletes are particularly susceptible to stress fractures, but anyone can experience a stress fracture. If you're starting a new exercise program, for example, you may be at risk if you do too much too soon.

Types

There are two types of stress fracture: fatigue and structure insufficient. Stress fracture of lumbar pedicle occurred mainly in the crowd with repetitive and large activities of spine, contralateral spondylolysis, or previous surgery of lumbar vertebra. The main stresses causing stress fracture of the lumbar pedicle are shear stress and twisting stress, followed by sudden hyperflexion or hyperextension of the spine. Stress fracture of lumbar pedicle was easily missed by conventional X-ray examination, usually XCT, MRI, or bone scan was needed to confirm the diagnosis. It is divided into 4 types or 4 periods according to MRI findings: stress reaction, incomplete fracture, complete fracture, and pseudarthrosis. For patients with incomplete, complete, and juvenile stress fractures of the lumbar pedicle without nerve root irritation, the majority of claims preferred conservative treatment and the healing rate of fracture was high; for patients with bilateral pseudarthrosis and with nerve root irritation as well as patients who failed to the conservative treatment, surgical management was advocated and the operation result is good.

Stress fracture of the lumbar pedicle as one of the causes of low back pain is extremely rare, and is easily missed clinically. Surgery or conservative management should be selected based on type of fracture and specific condition of the patient, the treatment results are satisfactory ¹⁾.

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Liu Y, Yin Q, Gu S, Sun Z, Rui Y, Shou K. [Research progress of stress fracture of lumbar pedicle]. Zhongguo Xiu Fu Chong Jian Wai Ke Za Zhi. 2013 Feb;27(2):240-2. Review. Chinese. PubMed PMID: 23596697.

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