

Management of Articular Cartilage Injury of The Knee

Introduction

Cartilage is a connective tissue composed of differentiated cells, the chondrocytes and an extracellular matrix which contains various protein fibers covering the end of the bone and form a smooth articular surface. Articular cartilage can be damaged by an acute injury or repetitive micro-trauma.

Symptoms

Damage to the articular cartilage may cause pain, loss of joint motion, effusion and swelling. Some of the patient may suffering from recurrent grating and locking sensation on motion. The locking symptom may due to trapping of the loose fragment within the joint. Articular cartilage damage may progress to joint degeneration in long run.

Diagnosis

Diagnosis of articular cartilage damage is not easy as the symptoms are non-specific and similar to other disease of the knee joint. The attending doctors will ask about the symptoms, history of the complaint and will carry out a detailed physical examination which is essential to look for the possibility of articular cartilage injury. He will examine for associated injuries such as recurrent patellar dislocation, insufficiency of the anterior and posterior cruciate ligaments of the knee, and meniscal pathology.

X-ray may help to detect those osteochondral lesions (bone + cartilage injury). As cartilage is radiolucent, lesions that involve the cartilage may not be able to identify by usual radiograph.

Magnetic resonance imaging (MRI) is an investigation that can provide good morphologic images of the cartilage lesion. It is a noninvasive tool for looking the soft tissue and articular cartilage which can used for diagnosis and treatment planning.

Treatment

After acute trauma of the knee, it is advised to have “RICE” therapy which includes:

- “**Resting**” the injured limb,
- “**ICE**” application,
- “**Compression**” therapy and
- “**Elevation**” of the injured limb.

The patient should always seek medical attention for a detail examination, a proper diagnosis and get an appropriate treatment.

Conservative treatment includes a course of analgesics and physiotherapy to reduce the pain and swelling, improve the range of joint motion and mobilization. For injuries that are resistant to conservative means, or if the symptoms persisted or got worse, surgical management may be necessary.

Arthroscopic procedures can be performed such as removal of the lesion, stimulating the formation of new articulating surface (e.g. microfracture technique, mosaicplasty), grafting with periosteum and cartilage cell transplantation etc. Each of these options will have its own indications, merits and complications. Your orthopaedic surgeon will provide his expertise opinion and offer the best treatment option for you.