

REVIEW ARTICLE ON DEGENERATIVE JOINT DISEASE

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ABSTRACT

Degenerative joint disease is an extremely common, non inflammatory, progressive disorder of movable joints, particularly weight-bearing joints, and is characterized pathologically by deterioration of articular cartilage and by formation of new bone in the subchondral areas and at the margins of the joint.^[1] It has been estimated that there are over 50 terms to describe this condition; osteoarthritis remains the most popular one and will be used interchangeably in this article, but is inaccurate as it implies an inherently inflammatory process. Other names used are hypertrophic arthritis, senescent arthritis, and osteoarthritis, but degenerative joint disease is the most accurate designation of the underlying pathologic process. The disease is more common in the elderly; indeed it appears to be an inherent part of the aging process. However, a variety of factors in addition to aging determines the pace of cartilage degeneration and the subsequent progression of the disease.

KEYWORDS: Osteoarthritis (OA), MRI (Magnetic Resonance Imaging), CT Computed tomography (), nonsteroidal anti-inflammatory drugs (NSAIDs), Hyaluronic acid (HA).

INTRODUCTION

Osteoarthritis (OA), also referred to as degenerative joint disease, is a common chronic condition; according to the Arthritis Foundation, OA affects approximately 27 million Americans. Osteoarthritis can affect any of your joints, but commonly affects the joints in the neck, lower back, hips, knees, and fingers. Healthy joints are cushioned with cartilage in between the bones so that the joint moves smoothly. Osteoarthritis is a condition in which the cushioning cartilage breaks down or deteriorates, causing pain and swelling which interferes with the movement of the joint. Like any arthritis of the spine, osteoarthritis is a progressive disease. As the cartilage wears away, the body protects itself by producing bone spurs. Bone spurs are tiny, smooth protrusions of bone that attempt to create the space between the bones formerly provided by cartilage. In severe degenerative joint disease, the cartilage wears away completely, allowing bone to rub against bone which causes more pain and additional damage to the joint. Surgery may be required to relieve the pain associated with bone spurs. There are minimally invasive back and neck pain treatments that can relieve your chronic pain and make it easier for you to get back to doing the things you enjoy. More than 50% of adults over the age of 65 are affected by degenerative joint disease. This condition is associated with pain, loss of function, and reduced endurance, ultimately leading to weight gain and associated complications. The

underlying cause of this condition is typically chronic repetitive motion that results in inflammation and structural joint damage.

DEFINITION

Degenerative joint disease, which is also referred to as osteoarthritis (OA), is a common “wear and tear” disease that occurs when the cartilage that serves as a cushion in the joints deteriorates. This condition can affect any joint but is most common in knees, hands, hips, and spine.

CAUSES

Osteoarthritis is caused by the deterioration of the cartilage that cushions the ends of your joint’s bones. As this happens, movement of the joint causes friction and the cartilage continues to wear down more and more, leading to bone rubbing against bone.

There are several factors that increase your risk of developing osteoarthritis, including:

- Age – Osteoarthritis risk increases with age.
- Sex – Though the reason is not yet known, women are statistically more likely to develop osteoarthritis than men.
- Family history – Your genetics may influence your risk of developing the condition.
- Previous joint injuries – Injuries to the joints, including injuries from a long time ago, increase

your risk of developing degenerative joint disease. These types of injuries are typically sustained in an accident or while participating in sports.

- Being overweight – Extra body weight puts more stress on the spine, hips, and other weight-bearing joints. Excess body fat has also been linked to joint inflammation.
- Certain occupations – Jobs that involve repetitive motion and strain on the joints can cause the cartilage around your joints to wear down faster.

Bone and joint disorders, such as rheumatoid arthritis, can also increase your risk of developing degenerative joint disease.

RISK FACTORS: Predisposing factors include repetitive motion, infection, rheumatoid arthritis, muscular dystrophy, osteoporosis, hormone disorders, obesity, sickle cell disease, and bone disorders. OA is equally common in men and women before age 55 but increases in women thereafter. Knee OA is more common in African-American women. Higher rates are observed in the knees in women and in the hips in men.

SYMPTOMS: Patients may have pain, stiffness, limited range of motion, loss of flexibility, swelling, weakness deformed joints, and damaged cartilage. As disease progresses, joint pain and discomfort that could be relieved with rest become persistent and can limit activity and reduce quality of life.

PHYSICAL EXAM: Physical examination will focus on the strength of the associated muscles and joint structure as well as tenderness of the joint. Ability to walk and range of motion will be examined as well. Evaluation of self-care and depression in the face of chronic pain are also necessary.

DIAGNOSTIC PROCESS: X-rays, MRI, CT, or bone scans are imaging techniques used to diagnose OA. Fluids removed from the affected joints may be analyzed, and arthroscopy, which involves insertion of a small scope into the joint, can be used to view the damage.

TREATMENT

The goals of osteoarthritis treatment are to relieve pain, improve range of motion, and try to slow the progression of the damage to the joints. A combination of non-invasive therapies is effective for many. These include (check with your doctor for which is best for you):

- Weight Management – Reaching and maintaining a healthy weight through a healthy diet and exercise can reduce your joint pain and limit further damage to your joints.
- Physical activity – Low impact exercise can help improve your pain and flexibility, as well as help you to maintain a healthy weight, which will limit

the stress on your joints. Exercises to strengthen the muscles that support your joints are also important.

- Heat and cold packs – Applying heat and cold packs can help relieve pain and inflammation in the joint.
- Pain medication – Analgesics and nonsteroidal anti-inflammatory drugs (NSAIDs) can relieve pain and inflammation. Prescription strength pain medication may be prescribed for a limited time if over-the-counter medication doesn't provide relief.
- Corticosteroids – These powerful anti-inflammatory medicines can be taken orally or injected directly into the affected joint(s) for temporary pain relief.
- Physical therapy – A physical therapist can work with you to improve the way you use your joints and teach you special exercises to help improve your range of motion.
- Hyaluronic acid (HA) – HA is a naturally occurring fluid in the body that lubricates the joints and reduces friction during movement. HA injections may be used to reduce pain in your joint.

In some cases, surgical osteoarthritis treatment may be necessary. Joint replacement surgery is a common osteoarthritis treatment. Spine surgery is also often used to treat severe degenerative joint disease. There are also minimally invasive spine surgery options that can remove bone spurs and take pressure off compressed nerves to relieve radiating pain and weakness.

REHAB MANAGEMENT: Pain alleviation via medications including acetaminophen, NSAIDs, narcotics, and injection of corticosteroids and rehabilitation lead to improvement. Weight loss if necessary and low-impact land or aquatic exercise are important features of treatment. Rehabilitation involves muscle strengthening and stretching around the diseased joints. Patients that participate in regular exercise tend to experience greater improvement.

OTHER RESOURCES FOR PATIENTS AND FAMILIES: Patient and family education about weight reduction, exercise, and use of pain medications is beneficial. Several organizations can offer information and support for patients and families.

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