

Provider Outlook

MAY 2020

HAND ARTHRITIS

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Arthritis is the most common joint disorder in the United States, affecting millions of people and contributing significantly to health care costs. The hand is frequently affected by arthritis and results in inflammation of the joints leading to pain and degraded function. There are various forms of arthritis resulting from numerous disease processes, congenital conditions or trauma. However, the most common form of hand arthritis is osteoarthritis.

Osteoarthritis is a degenerative form of arthritis that typically occurs with aging and results in the deterioration of the joint cartilage surfaces. The prevalence of hand osteoarthritis in patients over age 40 is 69% for females and 31% for males and most frequently involves the distal interphalangeal joint (the last joint of each finger near the fingernail), followed by the thumb carpometacarpal (CMC) joint (base of the thumb near the wrist). There are several contributing factors for development of hand osteoarthritis suggesting the true cause of this disease is multifactorial. These associated factors include increased age, female gender, elevated body weight,

genetic predisposition, history of injury or joint-specific issues such as increased laxity and abnormal alignment. There is limited evidence establishing a clear causal relationship between specific occupational exposures and development of osteoarthritis of the hand and thumb.

Symptoms and reported complaints associated with hand arthritis include dull or burning pain which may worsen with prolonged usage, joint swelling, and crepitus (crackling or grating sound caused by bones rubbing against each other). There may be deformity such as cysts, nodules, visible subluxation and/or deviation in the alignment of the joint. Patients may report weakness, pain or easy fatigability of the hand with normal daily activities. These symptoms may be exacerbated by activities that include firm gripping and pinching. Associated complaints such as hand numbness may also be present with concomitant carpal tunnel syndrome having been shown in the literature in approximately 50% of patients with thumb CMC osteoarthritis.

The evaluation of hand osteoarthritis includes a thorough history and physical examination and X-rays of the hand and wrist. Findings may include decreased range of motion of affected joints, pain with range of motion, tenderness to touch and visible deformity. In more advanced settings, there may be joint subluxation

(slippage of joint surfaces), visible deformity and crepitus with range of motion. X-rays classically demonstrate joint space narrowing, osteophytes (bone spurs) and subchondral sclerosis and cyst formation.

The treatment of symptomatic osteoarthritis of the hand includes non-operative or operative approaches to care. Non-operative treatment involves activity modifications, splint or brace use, occupational therapy, use of assistive devices, medication use (anti-inflammatories) and possibly intra-articular corticosteroid injections. Surgical treatment may be appropriate when patients have exhausted non-operative treatment. For advanced arthritis of the finger joints, surgical treatment may involve removal of painful bone spurs, artificial joint replacement or fusion of the joint. Surgical treatment of thumb CMC arthritis involves removal of the arthritic trapezium (carpal bone) with or without tissue interposition within the void created by removal of this bone and ligament reconstruction, or a suspension technique to maintain the thumb position after bone removal. The results of these various surgical procedures have overall been favorable.

References

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Dr. Gomez-Leonardelli completed his undergraduate studies at Stanford University in California, where he graduated with a B.A. degree. His medical degree was obtained from Creighton University School of Medicine in Omaha, NE. Both his internship and residency in orthopedic surgery were completed at the Naval Medical Center San Diego. Dr. Gomez-Leonardelli went on to complete a fellowship in orthopedic hand surgery at the Philadelphia Hand Center at Thomas Jefferson University.

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