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Review Article

PAGET'S DISEASE: A REVIEW ARTICLE**Fateme Parooei¹, Zohreh Mahmoodi², Maryam Behzadmehr³, Mohammad Behnampoor⁴, Mahmood Anbari⁵, Morteza salarzai^{1*}**¹ Student of Medicine, Students Research Committee, Zabol University of Medical Sciences, Zabol, Iran² Department of Cardiology, Faculty of Medicine, Zabol University of Medical Sciences, Zabol, Iran.³ Master of Science in Psychology, zabol,iran⁴ Student of Medicine, Students Research Committee, Zahedan University of Medical Sciences, Zahedan, Iran⁵ Zabol University of Medical Sciences, Zabol, Iran**Abstract:**

Introduction: Second to osteoporosis, Paget's disease is the second most common bone disease around the world; it is a relatively common disease of the skeletal system, which is often systemic but can be limited to one or more facial and cranial bones.

Methods: In this review article, the databases Medline, Cochrane, Science Direct, and Google Scholar were thoroughly searched to identify the studies investigating Paget's disease.

Findings: Paget's disease [osteoid deformity] is a progressive bone disease characterized by abnormal bone destruction and bone regeneration; the bone gets fragile and weakened. This disease is not cancerous. It usually affects the bones of the skull, backbone, leg and pelvis.

Conclusion and discussion: The deformity of the bones around the knee makes it difficult for the knee to perform arthroplasty surgery. The use of surgical navigation systems can play an important role in the treatment of knee deformity in patients with Paget's disease.

Key words: Paget's disease, bone disease, deformity

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INTRODUCTION:

Second to osteoporosis, Paget's disease is the second most common bone disease around the world; it is a relatively common disease of the skeletal system, which is often systemic but can be limited to one or more facial and cranial bones[1]. The incidence of male to female involvement is two to one, and about 90 to 95 percent of the patients suffering from this disease are over 40 years old; however, this disease can affect any group age, even infants[2]. This disorder is relatively common in Europe but rarely seen in Asia[3]. The main problem in Paget's disease is increased bone fractures [osteoclasts] in the bone, which makes bone marrow cells [osteoclasts] more frequent, larger, and more active, resulting in poor quality of emerging bones[4]. Although the majority of patients are asymptomatic and are diagnosed either with routine radiographic images or due to high level of serum ALP, some patients have bone pain, bone disorder, fracture, arthritis, headache, heart failure, etc[5]. After diagnosis, bone scan is the best way to determine the location and extent of the lesion[6]. Treatment includes non-pharmacological [physiotherapy] and pharmacological anti-bone absorption medicines [Base-phosphonates] such as alendronate and analgesics[7].

METHODOLOGY:

In this review article, the databases Medline, Cochrane, Science Direct, and Google Scholar were thoroughly searched to identify the studies investigating Paget's disease. In this review, the papers published until early January 2017 that were conducted to study the Paget's disease were selected. In searching for the articles, those English papers were selected that had investigated Paget's disease and its complications.

FINDINGS:

Paget's disease [osteoid deformity] is a progressive bone disease characterized by abnormal bone destruction and bone regeneration; the bone gets fragile and weakened[3]. This disease is not cancerous. It usually affects the bones of the skull, backbone, leg and pelvis[8]. The disorder is seen in both sexes, but is higher in men older than forty years[9]. Common symptoms include: early mild bone pain, affliction movement disorder, spinal cord pressure that affects sensory acuity, fracture with a mild blow and healing of fractures with abnormal shape[1]. In advanced stages, the patient suffers from chronic pain [especially at night], enlargement and bone deformity, pain in the affected area, and warmth of the skin on the bone[10]. Possible side effects of this disease include visual impairment or hearing loss, inflammation of the affected area of the skull on the brain, high blood pressure, kidney stones, gout,

bone cancer, and congestive heart failure due to increased heart pressure resulting from significant increase in blood flow in the affected bones[11]. Diagnostic tests include bone radiography, Blood and urine tests to determine the alkaline phosphatase level of serum and urine calcium, CT scan and MRI, and hearing and visual acuity in case of skull bone involvement[12].

Conclusion and discussion

The deformity of the bones around the knee makes it difficult for the knee to perform arthroplasty surgery[13]. In addition, pectoral bones are often enlarged, and therefore, there is a need for larger components than expected. Bone loss occurs more frequently in comparison to arthritis; there are, also, larger bone cysts and tighter ligaments[14]. Exposure is particularly difficult in patients with patchouli and thick bumps; in these cases, it may be necessary to obtain an appropriate expectorant through a surgery[15]. Another important point is the difficulty of maintaining tando connective tissue with Tibia bone while performing these exposures, especially in cases where there is a pituitary involvement around the tibia tubercle, patchy tendon tenderness from tibia has been reported[16]. There may be so severe soft tissues in these people that require the release of a wide range of lateral and medial elements for the expectorant and also obtaining the right balance of soft tissue[17]. In patients with a proximal tibia sclerotic area, the use of a high-speed dental drill or conventional drill instead of classic punches for ease of bone preparation and preventing fracture is helpful[18]. The use of surgical navigation systems can play an important role in the treatment of knee deformity in patients with Paget's disease[19]. Most surgical navigation systems, when arthroplasty is performed, use computer-based calculation to determine the mechanical direction of the body and of the patient, a task mostly conducted by the surgeons. And with this information, the surgeon can, in spite of the presence of deformities around the articular, put the camps in a good position with regard to the mechanical axis of the limbs[9].

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