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The frequency of spinal stenosis in patients who underwent total knee arthroplasty

Fatih Duygun, Cengiz Aldemir

Antalya Training and Research Hospital, Departman of Orthopedics and Traumatology, Antalya, Turkey

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Abstract

Our aim in this study was to determine the frequency of symptomatic spinal stenosis in patients who underwent total knee arthroplasty. A total of 156 patients who underwent total knee arthroplasty in Antalya Training and Research Hospital between 2014-2017 were included. Among the patients, 126 were female, 30 were male, and mean age of the study group was 67.22 (SD 6.6). These patients were retrospectively evaluated and the frequency of spinal stenosis was investigated. Among our patients, 104 (66.7%) had received unilateral, and 52 (33.3%) had received bilateral total knee arthroplasty. Spinal stenosis was identified in 26 (16.7%) patients. Three of these patients underwent surgical treatment, while the remaining 23 were treated conservatively. It should be kept in mind that patients who are to receive total knee arthroplasty may concurrently have spinal stenosis, so patient history should be carefully taken and detailed physical examination should be performed.

Keywords: Osteoarthritis, arthroplasty, gonarthrosis, spinal stenosis

Introduction

Osteoarthritis is the most frequent rheumatic disease and is a dynamic process involving all the tissues and structures of joints among which the bone and cartilage are especially effected [1]. It is the most common joint disease in the USA [2]. The frequency is on the rise due higher life expectancy and increased prevalence of obesity and sedentary life-style [3].

Gonarthrosis is a disease which effects the quality of life of patients and is one of the most frequent among osteoarthritises [4]. Patients with advanced osteoarthritis can be treated with total knee arthroplasty which significantly improves the pain and function of patients [5].

We investigated the frequency of spinal stenosis in patients who had underwent total knee arthroplasty in our clinic.

Material and Methods

A total of 156 patients who underwent total knee arthroplasty in Antalya Training and Research Hospital between 2014-2017 were retrospectively evaluated. Patients were contacted and were asked if they had waist problems. The presence of spinal stenosis was determined by evaluation of our hospital records or an MRI which the patient had had due to this complaint.

126 patients were female, 30 were male, and mean age was found as 67.22 years (SD 6.6). 104 patients (66.7%) had received unilateral, and 52 (33.3%) had received bilateral total knee arthroplasty.

Corresponding author: Fatih Duygun, Antalya Training and Research Hospital, Departman of Orthopedics and Traumatology, Antalya, Turkey
E-mail: fduygun2000@yahoo.com

Results

Spinal stenosis was identified in 26 (16.7%) patients (Figure 1a,1b,2,3a,3b,4).Three of these patients underwent surgical treatment, while the remaining 23 were treated conservatively. Among patients who underwent unilateral knee arthroplasty, 17 (16.3%) had spinal stenosis; whereas among those who underwent bilateral knee arthroplasty, 9 (17.3%) had spinal stenosis. The frequency of spinal stenosis was not significantly different between unilateral and bilateral groups (p=0.879).

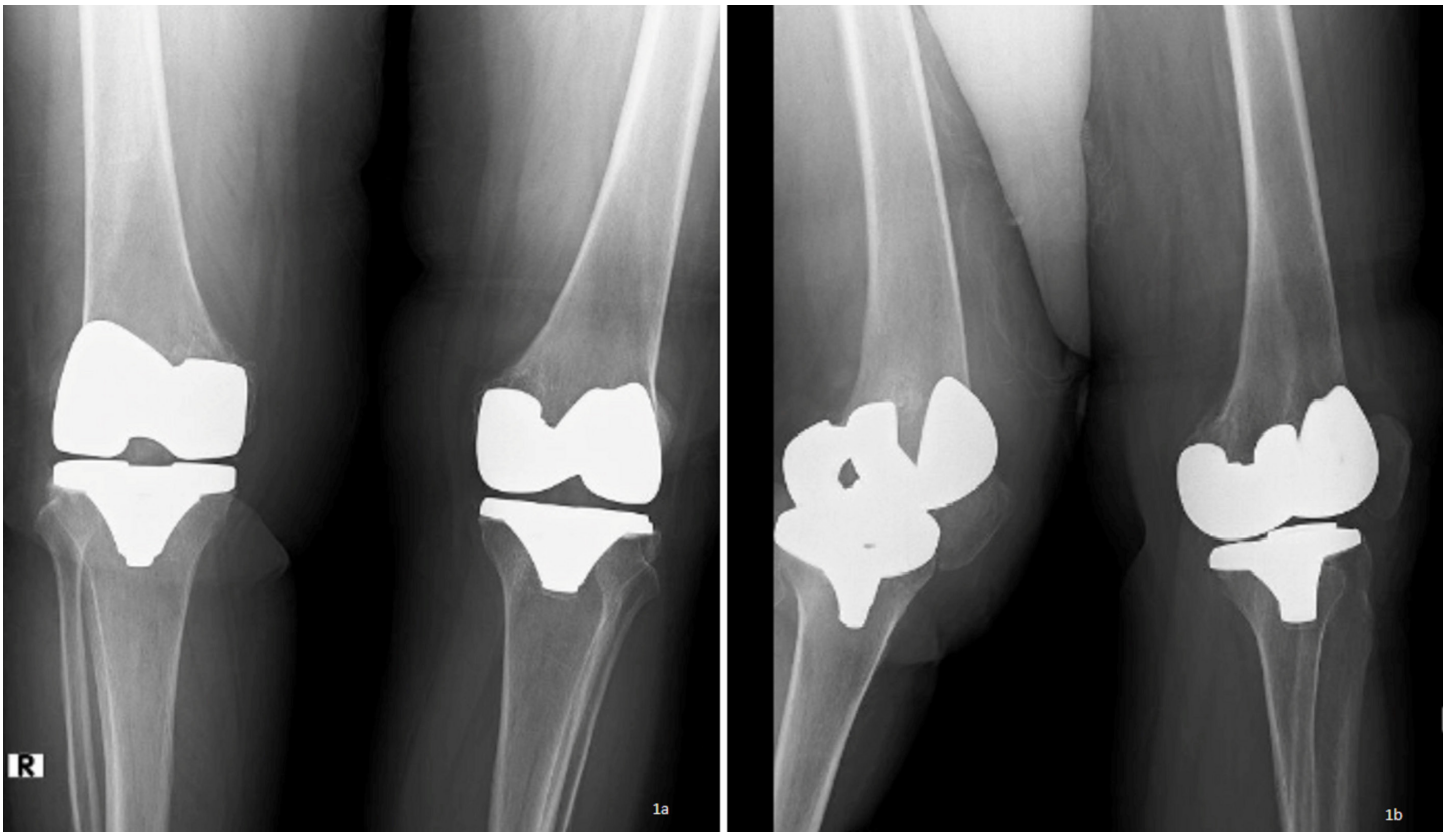
Discussion

Osteoarthritis of the knee, hip and spine may be seen concurrently in elderly patients. Identifying the true cause of pain may be difficult during diagnosis, and sometimes the cause of persistent pain after surgery may be other concurrent osteoarthritic lesions.

In a study by McNamara et al. [6], 14 patients who had osteoarthritis of the lower extremity with concurrent spinal stenosis were investigated. They report that 9 of these patients had persistent clinical symptoms after lower extremity arthroplasty and 7 of these patients received surgical decompression. Thus, they strongly suggest that the presence of lumbar spinal stenosis should be investigated in patients who have neurogenic claudication after lower extremity arthroplasty.

Koji et al. [7] investigated the effect of comorbidities on quality of life in their study and found that lumbar spinal stenosis was the most detrimental compared to comorbidities such as knee and hip osteoarthritis, cardiovascular disease, cerebrovascular disease, respiratory disease.

In the present study, we found that the frequency of symptomatic spinal stenosis was 16.7% among patients who had underwent total knee arthroplasty.



Figu**re 1a,1b.** Postoperative anteroposterior and lateral view of the knees of a 69-year-old woman suffering from severe bilateral knee osteoarthritis

Figure 2. Sagital lomber MRI view of same patient

Figure 3a.

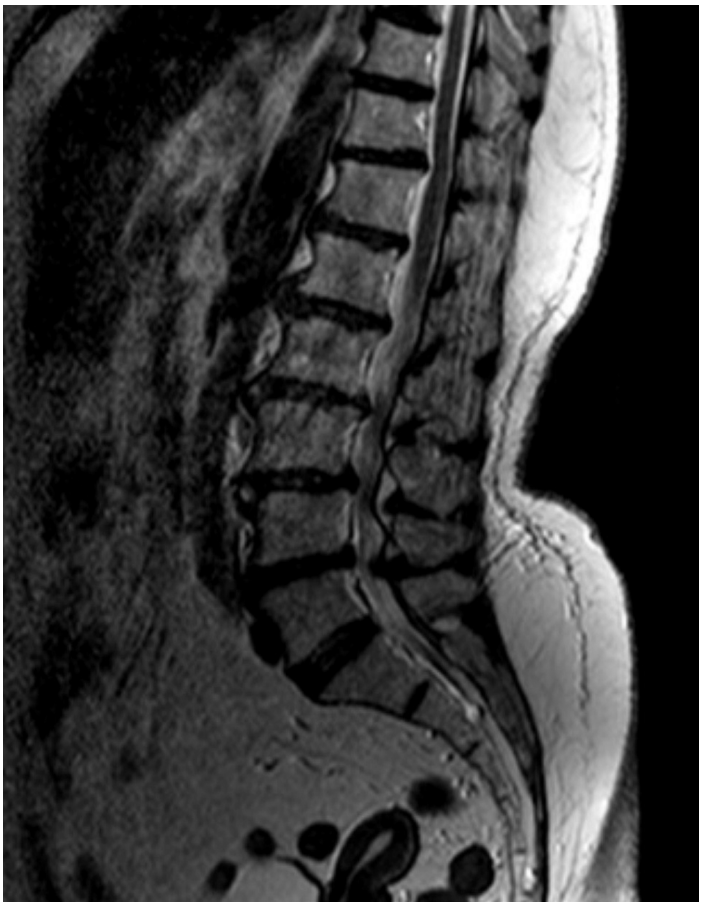


Figure 3a,3b: Early postoperative anteroposterior and lateral view of the left knee of a 71-year-old man suffering knee osteoarthritis

Figure 4. Sagital lomber MRI view of same patient

Conclusion

Total knee arthroplasty is an outstanding treatment method for the surgical treatment of knee osteoarthritis and is widely used both globally and domestically. This treatment is usually applied in patients with advanced age who may have degenerative problems of the spine in addition to knee osteoarthritis.

It is important to entertain the possibility that patients who are to undergo total knee arthroplasty may also have spinal stenosis which may be the actual cause of knee pain.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

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Informed consent was obtained from all individual participants included in the study.

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