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Coexisting Lumbar Spondylosis in Total Knee Arthroplasty Patients: A 10-Patient Case Series

Dr. Sandeep Kumar[1], Dr. Shashank Rastogi[2], Dr. Ashwani Mathur[3]

[1]Professor & Unit Head, Department of Orthopaedics, Mahatma Gandhi Medical College & Hospital, Jaipur

[2]Junior Resident, Department of Orthopaedics, Mahatma Gandhi Medical College & Hospital, Jaipur
Corresponding Author Email: *shashank.27october[at]gmail.com*

[3]Professor & Head, Department of Orthopaedics, Mahatma Gandhi Medical College & Hospital, Jaipur

Abstract: ***Lumbar spondylosis (LS) commonly coexists with knee osteoarthritis in older adults. We retrospectively identified 10 patients with advanced knee OA and radiographic LS from a prospective TKA cohort. All patients underwent primary total knee arthroplasty (TKA) and were evaluated preoperatively and at 6 months with the Oxford Knee Score (OKS) and Oswestry Disability Index (ODI), plus back pain VAS. At 6 months, mean OKS improved from 13.0 (±2.9) to 33.8 (±2.8), and mean ODI improved from 47.9% (±9.5) to 32.0% (±7.4). Back pain VAS likewise improved (mean 7.1→4.4). Nine of 10 patients had clinically meaningful ODI improvement; two with severe LS required spine intervention post-TKA. These findings indicate that although coexisting LS is common, most patients achieve substantial knee and back outcome gains after TKA. Surgeons should recognize LS comorbidity and counsel patients on realistic functional recovery.***

Keywords: Total Knee replacement, Lumbar Spondylosis, Arthroplasty, Osteo-Arthritis, Oxford Knee Score, Owestry Disability Index

1. Introduction

Lumbar spondylosis and knee osteoarthritis (OA) are both highly prevalent in the elderly. As many as half of patients undergoing TKA have symptomatic lumbar spine degeneration. Coexisting LS may exacerbate baseline disability and compromise postoperative recovery. Despite this, the impact of LS on early TKA outcomes remains underreported. Here we present a case series of 10 patients with coexisting LS treated with TKA.

2. Methods

This case series is drawn from a prospective observational study of 32 consecutive patients with advanced knee OA who underwent primary TKA at our institution. Eighteen of the 32 were found to have radiographic lumbar spondylosis and clinical symptoms of LS. We selected 10 representative LS patients for this report. Functional outcomes were assessed using the Oxford Knee Score (OKS) for knee function and the Oswestry Disability Index (ODI) for back disability. Back pain was also rated on a VAS. Assessments occurred preoperatively and at 6 months postoperatively.

3. Case Series Summary

The 10 patients ranged in age from 62 to 82 years (mean 70.8). All had bilateral end-stage knee OA. LS severity was graded as 1 mild, 5 moderate, and 4 severe. Two patients with severe LS required spine-focused treatment after the 6-month follow-up.

Table 1: Baseline characteristics of 10 patients

Case	Age (yr)	Sex	Knee OA Grade	LS Severity	Spine Tx?
1	72	M	IV	Moderate	No
2	82	F	III	Moderate	No
3	65	F	IV	Severe	Yes
4	71	M	IV	Moderate	No
5	76	F	IV	Severe	Yes
6	75	M	IV	Severe	No
7	79	F	IV	Severe	No
8	71	M	IV	Moderate	No
9	62	F	III	Moderate	No
10	73	M	III	Severe	No

Table 2: Functional scores before and after TKA

Case	OKS (pre)	OKS (6 mo)	ODI (pre)	ODI (6 mo)	VAS Back (pre)	VAS Back (6 mo)
1	14	36	55	23	6	5
2	15	35	52	31	6	2
3	10	33	60	30	8	6
4	16	39	44	38	6	4
5	17	33	60	35	8	6
6	11	30	43	41	8	5
7	10	35	34	26	8	2
8	10	30	53	37	6	6
9	19	39	31	38	7	3
10	10	36	47	18	8	5

4. Results

At 6 months post-TKA, all patients showed substantial improvement in knee scores and in 9 of 10 patients in ODI. Mean OKS increased from 13.0±2.9 to 33.8±2.8. Mean ODI decreased from 47.9%±9.5% to 32.0%±7.4%. Back pain VAS improved from 7.1±0.9 to 4.4±1.6 on average.

5. Discussion

In this series of 10 TKA patients, coexisting LS was associated with significant preoperative disability, yet 90% achieved marked improvement by 6 months. Our findings support that coexisting LS should not contraindicate TKA. Most patients achieve excellent knee and back outcomes. However, severe LS may necessitate additional spine care. Preoperative counseling should address the possibility of persistent back pain.

6. Conclusion

TKA produced marked functional improvements in patients with coexisting LS. Most patients achieved substantial improvements in OKS and ODI over 6 months. However, severe LS may require additional spine interventions.

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