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Retrospective Study of 85 Total Knee Arthroplasties: Epidemiological and Functional Results, and Impact on Quality of Life

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Abstract **Original Research Article**

Total knee arthroplasty (TKA) is a highly successful procedure in modern orthopedics. This study evaluates the epidemiological profile, functional and radiological outcomes, and quality of life improvements following TKA in a Moroccan cohort. A retrospective study was conducted on 85 TKAs performed in 73 patients at the Mohammed V Military Teaching Hospital in Rabat between January 2019 and December 2022. Data were collected using a standardized form, and functional assessment was performed using the IKS score, Lequesne index, Parker score, and Jensen index preoperatively and postoperatively. The mean age was 64.5 years, with a female predominance (76.71%). Osteoarthritis was the primary etiology (88.2%). Preoperative scores indicated severe functional impairment (mean IKS: 99/200; mean Lequesne: 17/24). At a mean follow-up of 28 months, a significant improvement was observed: the mean IKS score rose to 171/200 and the mean Lequesne index dropped to 7/24. The quality-of-life assessment showed that 89.04% of patients were satisfied. Complications were rare, primarily stiffness (6 cases). Conclusion: Total knee arthroplasty is a reliable and effective treatment for severe knee osteoarthritis. It provides excellent functional results, significant pain relief, and a marked improvement in patient quality of life, with a high satisfaction rate consistent with international literature.

Keyword: Total knee replacement, arthroplasty, orthopedics.

INTRODUCTION

Total knee arthroplasty (TKA) is undoubtedly one of the major successes of modern orthopedic surgery. Since the first models in the 1970s, the discipline has progressed considerably, thanks to continuous improvements in implant design, biomaterials, and surgical techniques. These advances have resulted in increased reliability and durability, making TKA the gold standard treatment for severe knee osteoarthritis.

The objective of our work was to outline the epidemiological profile of operated patients, analyze in detail per- and post-operative complications, and evaluate the functional, radiological, and, above all, the impact on quality of life after the implantation of a total knee prosthesis. This study aims to confirm, on a Moroccan cohort, the major benefit of this procedure in restoring autonomy and relieving pain.

MATERIALS AND METHODS

This is a monocentric, retrospective study of 85 total knee arthroplasties performed in 73 patients in the Department of Traumatology-Orthopedics II of the Mohammed V Military Teaching Hospital in Rabat. The recruitment period spanned four years, from January 2019 to December 2022.

- Inclusion Criteria: All patients who underwent TKA during the study period and whose medical records were complete and usable.
- Exclusion Criteria: Records that were unusable due to missing, inaccessible, or lost data, as well as patients who could not be contacted for follow-up.

Patient recruitment was carried out from the hospital registry. A standardized data collection form was used to collect preoperative epidemiological, clinical, and radiological data. Functional assessment was based on validated scores: the International Knee Society (IKS) score, the Lequesne algo-functional index, and the Parker score. Quality of life was measured by the

Jensen index. All these measures were collected preoperatively and repeated during postoperative follow-up for comparison.

RESULTS

The mean age of the patients was 64.5 years, with a clear female predominance (76.71%, n=56). In terms of anthropometrics, 71.25% of patients had a body mass index (BMI) greater than 25 kg/m², indicating overweight or obesity in a large part of the cohort. A history of joint overuse, of professional or sporting origin, was found in 45.20% of patients (n=33). The most frequent medical history was hypertension (HTN) and diabetes.

The etiology of osteoarthritis was predominantly primary (88.2%, n=75 cases), versus 11.7% (n=10 cases) of secondary osteoarthritis.

The mean time to consultation, reflecting the chronicity of the pathology, was 7 years, with extremes ranging from 3 to 17 years. The preoperative clinical evaluation showed severe functional impairment: the mean IKS score was 99/200 (Figure 1), the mean Lequesne index was 17/24 (Figure2), and the mean Parker score was 5.1/9 (Figure3).

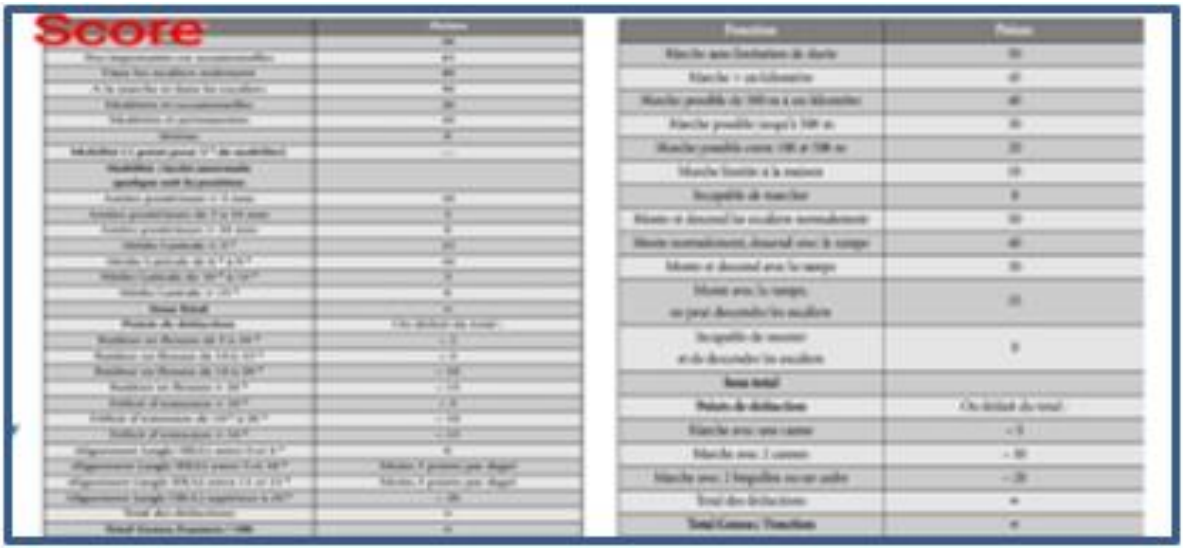
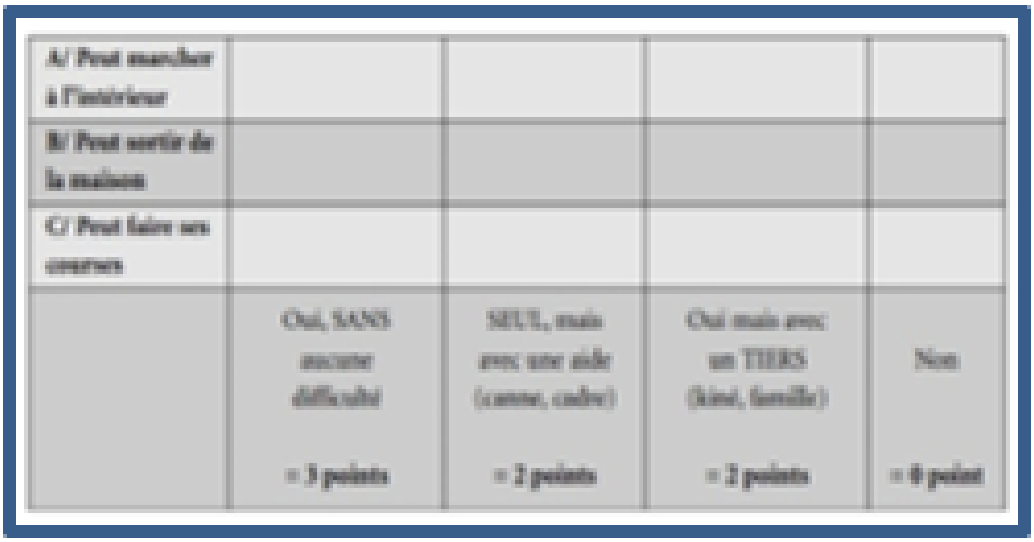


Figure 1: IKS=International Knee Society Score

Figure 2: The mean Lequesne index



A/ Peut marcher à l'intérieur				
B/ Peut sortir de la maison				
C/ Peut faire ses courses				
	Oui, SANS aucune difficulté = 3 points	SEUL, mais avec une aide (canne, cadre) = 2 points	Oui mais avec un TIERS (kiné, famille) = 2 points	Non = 0 point

Figure 3: The mean Parker score

Systematic radiological assessment (standard X-rays, weight-bearing views, and full-length standing radiographs) allowed for the classification of lesions according to the Ahlbäck classification. It revealed that 93.6% of patients had advanced osteoarthritis (stages III, IV, and V). The full-length radiograph also measured a mean global deviation angle in genu varum of 14° (Figure4).

Figure 4: From left to right:

- Knee X-ray, patellofemoral view.
- Front and lateral knee X-ray.
- Pangonogram

The procedures were performed mainly under general anesthesia (65.88%), followed by spinal anesthesia (29.41%). A femoral block with a catheter was placed in 22 patients to optimize postoperative analgesia and facilitate early rehabilitation.

Technically, cemented semi-constrained prostheses were used in 95.29% of cases. Four patients (4.7%) with more severe instability or ligament destruction received a constrained prosthesis (Figure5).

Figure 5: Post-operative x-rays

The standard postoperative care protocol included 48-hour antibiotic prophylaxis, multimodal analgesia, and anticoagulation with low molecular weight heparin (LMWH) to prevent thromboembolic disease. Rehabilitation, started immediately in the department, included an average of 20 sessions. The average hospital stay was 6 days.

The mean follow-up was 28 months. The results were very encouraging. We observed a spectacular improvement on all fronts:

- Pain and Function: The mean IKS score increased from 99 to 171/200.
- Functional Discomfort: The Lequesne index decreased from 17 to 7/24.
- Mobility and Autonomy: The mean Parker score increased from 5.1 to 8.2/9.

The quality-of-life assessment by the Jensen index confirmed this trend (Figure6)., with restored autonomy for daily activities. Overall, 89.04% of patients (n=65) reported being satisfied or very satisfied with the procedure.

Indice 1	Entièrement autonome apte à travailler
Indice 2	Fait son ménage, repas à domicile, aide familiale < 4 h/semaine
Indice 3	Aide familiale >5 h/semaine, éventuellement infirmière à domicile
Indice 4	Vit en maison retraite ou long séjour, ou *nursing* lourd

Figure 6: The Jensen index

Postoperative radiological controls confirmed the normalization of lower limb axes in all patients (Figure7).

Complications were rare, dominated by joint stiffness (6 cases), which required prolonged rehabilitation. One case evolved into residual stiffness.

Figure 7: Post-operative pangonogram showing normalization of the axes of the lower limbs

DISCUSSION

Osteoarthritis is considered the leading cause of joint replacement surgery. According to several studies, age (when combined with other factors), female gender, obesity, joint overuse, particularly from work and sports, and a history of orthopedic surgery (meniscectomy, tibial osteotomy, the presence of tibial fracture sequelae, etc.) are considered risk factors for the development of arthropathy [1-2-3-4]. Osteoarthritis can be secondary to axis abnormalities (varus-valgus alignment) [5-6-7-], a history of trauma or surgery, ligament injuries, or inflammatory diseases. The results of our study are consistent with the literature and confirm the beneficial contribution of total knee replacement in improving patients' quality of life. The majority of studies affirm the analgesic effect of total knee replacement [6-8-9-10], and the improvement of mobility and walking perimeter [5-8-9-11-12]. In our study, the average mobility increased to 110° with an unlimited walking perimeter in 27.05% of patients. The improvement in scores and indices from other postoperative studies is comparable to the results observed in our study, where the mean IKS score increased from 99 to 171, and the Lequesne index decreased from 17 to 7. We note that the percentage of good and very good results obtained in our series is very satisfactory, compared to those of other series in the literature. The level of dissatisfaction after TKA varies between 10% and 20% depending on the series, placing our series, with 10.95% of dissatisfied patients, at the level usually found. Furthermore, several authors have attempted to link the level of patient satisfaction to a specific factor, namely: age and BMI, gender, first or second side operated, severity of preoperative osteoarthritis, and patient expectations, but no studies have demonstrated its superiority. On the other hand, an IKS score is a predictive factor of good subjective results after a TKA.

We note that the results of patient quality of life assessment using the Parker score and the Jensen index are satisfactory, which means that a clear majority of patients benefit from the operation. The average Parker score of our patients postoperatively increased to 8.2/9 instead of 5.1/9 preoperatively. (Comparable to the results of Dumont. G (5.75/9 to 7.4/9) [13]. As well, our patients became more independent at home and able to walk without assistance with an average Jensen index of 1.54 postoperatively, this is in line with the study published by R. LANCIGU (at 1.7) [14].

CONCLUSION

Total knee arthroplasty establishes itself as an irreplaceable and proven therapeutic option in the management of disabling knee osteoarthritis. Constant progress in the understanding of knee biomechanics, the optimization of implants, and the mastery of surgical techniques make it a reliable and reproducible procedure.

Our retrospective study, although conducted on a limited number of patients, corroborates global literature data. It demonstrates that TKA not only relieves pain and corrects deformities but also, and above

all, restores significant quality of life for the vast majority of patients. The high satisfaction rate and the objective improvement in functional scores should encourage active and early management of patients suffering from severe knee osteoarthritis, once medical treatment is insufficient.

BIBLIOGRAPHY

1. Philippe Ravaud, Maxime Dougados. Definition and epidemiology of knee osteoarthritis. French Journal of Rheumatology 2000; 67 SuppI 3: 130-7.
2. B. Auvinet, D. Chaleil, E. Barrey. High heels and knee osteoarthritis: a new biomechanical approach. Revue du Rhumatisme (English Edition) 74 (2007) 976–1037.
3. Weiss, J. Parvizi, R.T. Trousdale, R.D. Bryce, D.G. Lewallen. Total knee arthroplasty in patients with a prior fracture of the tibial plateau. Journal of Bone and Joint Surgery (Am), 2003, 85, 218-221.
4. J. Parvizi, A.D. Hanssen, M.J. Spangehl. Total knee arthroplasty following proximal tibial osteotomy: risk factors for failure. Journal of Bone and Joint Surgery (Am), 2004, 86, 474-479.
5. Briard JL. Mobile-bearing total knee arthroplasties, clinical results from 3 to 10 years. Cahiers d'enseignement de la SOFCOT. 2002, vol 81, pp: 241 -248.
6. Caton J., Merabet Z. Unconstrained total knee arthroplasties with preservation of both cruciate ligaments. Cahiers d'enseignement de la SOFCOT. 2002, vol: 81 pp: 241-280.
7. Moisio K, Chang A, Eckstein F, Chmiel JS, Wirth W, *et al.*, Varus-valgus alignment: reduced risk of subsequent cartilage loss in the less loaded compartment. Arthritis & Rheumatism. 2011 Apr; 63(4):1002–9.
8. Neyret P. Posterior-stabilized total knee arthroplasties: Results at 5 and 10 years. Cahiers d'enseignement de la SOFCOT. 2002; 81: 258- 272.
9. Nordin JY. Results at 5 and 10 years of fixed-bearing total knee arthroplasties preserving the posterior cruciate ligament. Cahiers d'enseignement de la SOFCOT. 2002, vol: 81, pp 249- 257.
10. El Alaoui A. Total knee arthroplasties. Medical Thesis, Fez. 113/12.
11. Jaffar-Bandjee Z, F. Lecuire, M. Basso, J. Rebouillat. Long-term results of total knee arthroplasty (10 to 13 years follow-up). Acta Orthopaedica Belgica 1995; 61: 1.
12. Dejour D, Deschamps G. Comparative results of HLPS and HLPSCP prostheses at 9 and 7 years follow-up. 9èmes Journées lyonnaises de chirurgie du genou, sauramps médical: 1999: 149- 158.
13. Dumont G. Surgical treatment of distal femur fractures in patients over 65 years of age. Medical Thesis, Lille, 2012.
14. Lancigu R, Le Nay P, Hubert L, Massin P, Bizot P. One-stage bilateral total knee arthroplasty. Orthopaedics & Traumatology: Surgery & Research (2012) 98S, S151-161.