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## Research paper

# Baksi's sloppy hinged prosthesis in rheumatoid arthritis of elbow: A midterm follow-up study



S. Muthukumar Balaji<sup>a,\*</sup>, T. Rajesh Kumar<sup>b</sup>, Sathish Devadoss<sup>c</sup>,  
A. Devadoss<sup>d</sup>

<sup>a</sup> Junior Consultant, Department of Orthopaedics, IORAS, Devadoss Multispeciality Hospital, Madurai, India

<sup>b</sup> Resident, Department of Orthopaedics, IORAS, Devadoss Multispeciality Hospital, Madurai, India

<sup>c</sup> Senior Consultant, Department of Orthopaedics, IORAS, Devadoss Multispeciality Hospital, Madurai, India

<sup>d</sup> Chief, Department of Orthopaedics, IORAS, Devadoss Multispeciality Hospital, Madurai, India

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## ABSTRACT

**Background:** Rheumatoid arthritis is a systemic inflammatory disorder that is characterized by polyarticular involvement. In rheumatoid patients, elbow joint involvement occurs in 20–40% of cases. The aim of our study was to evaluate the functional outcome of Baksi's sloppy hinged elbow prosthesis in rheumatoid arthritis of elbow at mid term follow-up.

**Materials and methods:** All patients who underwent total elbow replacement using the Baksi's sloppy hinged prosthesis for rheumatoid arthritis of elbow from 2005 to 2012 were included in the study. Of the twelve patients studied, four patients were males and eight were females. Mayo elbow performance score was used pre-operatively and post-operatively for the functional outcome of total elbow replacement. Mean age of the patients in this study was 38.58 (range 20–60 years). The average pre-operative pain score was 21.25 (range 5–45). **Results:** Mayo elbow performance score improved from 40.83 preoperatively to 82.91 post-operatively ( $p < 0.05$ ). The average range of motion was 110° (10–120°). Postoperatively all patients had good pain relief. The average post-operative pain score was 38.75 (range 15–45). The post-operative functional score was 20 (range 15–25).

**Conclusion:** Baksi's prosthesis has good result in rheumatoid arthritis of elbow, with good patient satisfaction in mid term follow-up. The overall functional outcome, pain improvement and stability of joint are satisfactory using the Baksi's sloppy hinged prosthesis for rheumatoid arthritis of elbow.

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## 1. Introduction

Rheumatoid arthritis is a systemic inflammatory disorder that is characterized by polyarticular involvement. In contrast to

osteoarthritis it is characterized by severe articular surface involvement and joint destruction. In rheumatoid patients, elbow joint involvement occurs in 20–40% of cases. Isolated involvement is rare.<sup>1</sup> Total elbow arthroplasty (TEA) is a reliable procedure for the treatment of elbow arthritis when

\* Corresponding author. Tel.: +91 9600341714.

E-mail address: [mkbmb79@gmail.com](mailto:mkbmb79@gmail.com) (S. Muthukumar Balaji).

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other interventions have failed. Pain is the most common indication for total elbow replacement.<sup>2</sup> Most patients requiring TEA will have pain throughout the arc of motion. We present our mid-term follow-up of Baksi's sloppy hinged prosthesis in rheumatoid arthritis of elbow.<sup>3</sup>

## 2. Materials and method

All patients who underwent Baksi's sloppy hinged total elbow replacement for rheumatoid arthritis elbow from 2005 to 2012 were included in this study. Patients were followed up every month till the 6th month then every year. 13 patients underwent the procedure, one patient was lost to follow-up.

The average pre-operative pain score was 21.25 (range 5-45). The pre-operative functional score was 7.5 (range 0-20). Using Mayo classification eight patients had grade III (66.5%) and four patients had grade IV (33.5%) involvement of the elbow. Eight were left elbow and four were right elbow. Clinical evaluations were done using Mayo elbow performance score for functional results, and X-rays were taken for radiological follow-up. The preoperative mean range of motion was 40.25° (20-60). All cases were operated by one surgeon.

Surgical method (Baksi's technique): With patient under general anesthesia, the limb was prepped with tourniquet application. Postero-medial incision was done. After subfascial dissection ulnar nerve was isolated and secured by an umbilical tape. Medial epicondyle, coronoid, olecranon, and



**Fig. 1 – (a) Pre operative radiograph of a case of rheumatoid arthritis of left elbow. (b) Post operative radiograph of the same patient's left elbow. (c) Radiograph taken at 4 years follow-up. (d) Clinical image showing the left elbow extension at 4 years. (e) Clinical image showing the left elbow flexion at 4 years.**

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