

Reliability of Extensor Pollicis Brevis (EPB) Entrapment Test in Identifying a Separate Compartment for EPB in Patients with de Quervain Disease

Muddada SRAVANI*, Satyanarayana REDDY†, Praveen BHARDWAJ‡, Vigneswaran VARADHARAJAN‡, S. Raja SABAPATHY‡

*Andhra Medical College, Visakhapatnam, Andhra Pradesh, India

†Consultant – Abeer Medical Center, Abu Hamour, Doha, Qatar

‡Ganga Hospital, Coimbatore, Tamil Nadu, India

Background: The presence of a separate compartment for the extensor pollicis brevis tendon (EPB) has an implication in the treatment outcome for de Quervain disease. The EPB entrapment test, proposed by Alexander and colleagues, claims to correlate with the presence of a separate compartment for EPB. The purpose of our study is to evaluate the reliability of the EPB entrapment test in predicting a separate compartment for EPB in patients with de Quervain disease.

Methods: This was a prospective observational study involving 50 consecutive patients who underwent de Quervain release by a single surgeon. Preoperatively, EPB entrapment test was performed by the operating surgeon. The outcome of the test was recorded and the presence of a separate compartment for the EPB was determined during surgery. Sensitivity, specificity, positive predictive value and negative predictive value of the EPB entrapment test was determined.

Results: EPB entrapment test was positive in 28 of 50 patients. In 21 of them, a separate compartment for the EPB was noted. The positive predictive value of the test was found to be 75.8%. The test had a false positive rate of 26.9%, a false negative rate of 12.5%, sensitivity of 87.5% and specificity of 73%. There is a significant association between a positive EPB entrapment test and the presence of a separate compartment for the EPB (p value <0.001). The sensitivity of the test increases to 95.8% if pain on both extension and abduction of the thumb is considered a positive response.

Conclusions: The EPB entrapment test is a reliable clinical test to look for the presence of a separate compartment for EPB. Considering the response of pain on both extension and abduction of the thumb further improves the sensitivity of the test. Hence, we suggest including this response also as a positive test.

Level of Evidence: Level II (Diagnostic)

Keywords: *de Quervain disease, Extensor pollicis brevis entrapment test, Separate dorsal compartment, Anatomical variations, Radial Wrist pain*

INTRODUCTION

de Quervain disease is a stenosing tenosynovitis of the first extensor compartment of the wrist containing the abductor pollicis longus (APL) and extensor pollicis brevis (EPB) tendons. Many anatomical studies have confirmed that there are many variations in the anatomy of the EPB tendon and the first dorsal compartment.^{1,2}

Received: May 4, 2021; Accepted: Jun. 25, 2022

Published online: Aug. 8, 2022

Correspondence to: Dr. Praveen Bhardwaj

FNB (Hand & Microsurgery); EDHS

Consultant – Hand and Wrist Surgery and Reconstructive Microsurgery

Ganga Hospital, Coimbatore, Tamil Nadu 641043

India

Tel: +91-9944562422

E-mail: drpb23@gmail.com