

# A simple diagnostic test for symptomatic Linburg-Comstock anomaly

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## Abstract

### INTRODUCTION

Anomalous connection between the flexor pollicis longus (FPL) and the flexor digitorum profundus (FDP II) to the index finger obstructs the independent flexion movement of the fingers. Linburg and Comstock reported four cases of anomalous slips between the FPL and FDP to the index finger. Epidemiological study reveals an incidence of up to 37% with unilateral incidence of this condition in up to 31% of patients while it can be bilateral in 14%. [1] In spite of the high incidence of the anomaly only a small sub group of patients are symptomatic from the condition. It has been commonly reported in musicians in whom repetitive thumb and finger movements cause restrictive, flexor tenosynovitis. Repetitive and continuous use of the hand aggravates the symptoms and can be cause of concern in musicians in whom the static thumb posture with active finger movements can lead to painful restrictive tenosynovitis. [2] It has also been reported that uncontrollable simultaneous flexion of the thumb and index finger may lead to fatal accidents in security personnel with this anomaly.

The anomaly can be asymptomatic or can present as an inability to flex the inter-phalangeal joint of the thumb without flexing the distal inter-phalangeal joint of the index finger. It may also present as pain in the distal forearm, wrist or in the hand. Median nerve symptoms resembling carpal tunnel syndrome could be present due to the inflammation or the presence of additional tendons or synovitis within the carpal tunnel. [6] Failure to identify the presence of this condition can result in inadequate decompression as the conventional surgical approach precludes adequate forearm exploration. Excision of the anomalous tendon slips resulted in symptom relief in all the patients in the original series.

Linburg and Comstock described the screening test of passively restricting finger flexion while actively flexing the

thumb which causes pain in the distal radial forearm and the wrist. [4] Karalezli et al have shown MRI to be helpful in localising the anomalous connection which confirms the diagnosis and also helps the surgeon perform the operation with a limited incision. [3]

On examination, patients complain of pain or discomfort during flexion of the thumb to the base of the little finger while the index finger is being held in extension by the examiner. This test has been widely used as a screening tool to test for this anomaly.

### TECHNICAL NOTE

We describe a simple test for confirming the diagnosis of this condition. When passive restriction of index finger flexion when actively flexing the thumb produces pain in the distal radial forearm and the wrist, 0.5mls of Lignocaine (1%) is injected into the radial aspect of the distal forearm at the junction of the FPL and FDP II tendons (Figure 1) at the proximal edge of pronator quadratus (approx 2 finger breadths proximal to the proximal palmar crease). The needle tip is inserted to the bone and slightly withdrawn to inject locally around the tendon of FPL and FDP II. After 10 minutes the clinical examination manoeuvre described by Linburg and Comstock is repeated. Relief of pain confirms the diagnosis.

{image:1}

This test is used in our hand clinic in patients with suspected Linburg Comstock anomaly before offering surgical exploration. Once the diagnosis is confirmed the surgical treatment options include exploration, excision of the tendinous connection or chronic synovitic tissue and adhesions and if needed carpal tunnel decompression depending on the patients symptoms.

## **References**

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