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The Hand Hug: A Novel Test for Linburg–Comstock Syndrome and Wide-awake Correction of the Anomaly

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In 1979, Linburg and Comstock[1] described an inability to flex the interphalangeal joint of the thumb without simultaneously flexing the distal interphalangeal joint of the index finger, caused by a congenital anomalous connection between the flexor pollicis longus tendon and the flexor digitorum profundus tendon to the index finger.

The "hand hug test" is a novel clinical test for this condition. The palm of the affected hand of the patient is placed on the ipsilateral palm of the examiner's hand with all the digits lined up in extension. The thumbs are abducted. The patient is asked to bend the thumb around the examiner's hand while the examiner does the same action—as if the hands are "hugging." Because the index finger of the patient and the small finger of the examiner are aligned and blocking each other in extension, the thumb of the patient with the Linburg-Comstock anomaly is not able to make a "hand hug."

We report the case of a 20-year-old, right-hand dominant carpentry student who had a complete inability to move his right thumb and right index finger independently. The patient did have the anomaly on the contralateral side, but it was far less pronounced.

Specific activities affected by the anomaly were piano, typing, and rock climbing. The phenomenon had always been present but was progressively becoming more pronounced, with no clear history of an inciting traumatic event.

We performed a point-of-care ultrasound examination and observed a pathologic band in both the coronal and sagittal view, which was 4 cm in length. We agree that magnetic resonance imaging or computed tomography scan can be helpful to characterize the anatomy, but high-frequency ultrasonography is sufficient to localize the congenital band.[2]

We performed wide-awake surgery with subcutaneous local anesthesia infiltration of 10 mL lidocaine 1% with 10 mg/mL of epinephrine with 20 mL saline buffered with 2 mL 8.3% bicarbonate [wide awake local anesthesia no tourniquet (WALANT) technique].[3] The local anesthesia was allowed at least 45 minutes to take effect before the procedure. The patient was positioned supine with the affected limb on an arm board without a tourniquet. The surgical field was prepared and draped using field sterility. A linear incision was made along the radial aspect of the distal forearm over the flexor carpi radialis tendon, just proximal to the volar wrist crease. The anomalous connection was confirmed by the synkinesis of the tendons on both active and passive intraoperative testing. We observed the fibrous type anomalous connection, which is the most common type among the classification of Yurasakpong et al.[4]

We sharply divided the connection, which immediately corrected the anomaly. The thumb and index finger could now move independently, and the patient was able to make the "hand hug" with the surgeon [**See Video (online),** which displays the preoperative clinical and ultrasound examination, surgical procedure, and final result with the "hand hug test" for each step]. The patient was mobilized immediately, using principles of hand elevation, early cessation of postoperative analgesics, and "pain-guided healing." Hand therapy was used to encourage independent tendon gliding. He made a complete recovery and was able to return to normal activities without restrictions.

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PATIENT CONSENT

The patient provided written consent for the use of his image.

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