Clinical Location of Hook of Hamate: 
A Technical Note for Endoscopic 
Carpal Tunnel Release

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Endoscopic carpal tunnel release involves a limited surgical exposure to release the transverse carpal ligament* (TCL). Topographic landmarks can provide valuable reference points to enhance an operation. The hook of the hamate is a useful guide to the ulnar (safe) border of the carpal canal but can be difficult to palpate. Kaplan's cardinal line has been used to estimate the position of the hook of the hamate and the superficial palmar arch. However, the accuracy of this technique is questionable because it is based on a moving reference point, the web space of the thumb. We report a technique to localize the position of the hook of the hamate and define key relationships of clinical importance for endoscopic carpal tunnel release.

Technique

The landmarks used to localize the hook of the hamate are illustrated in Figure 1. After the location of the pisiform is palpated and marked, a second mark is placed on the proximal palmar skin crease, in line with the midportion of the index finger or second metacarpal. These two points are then connected, forming the index-pisiform line. A second line is drawn from the midpoint of the base of the ring finger, proximally to the wrist crease at the junction of its middle and ulnar third, forming the fourth metacarpal line. The intersection of the index-pisiform line and the fourth metacarpal line directly overlies the hook of the hamate.

Materials and Methods

The technique was used to localize the hook of the hamate in 10 cadaveric upper extremities. A radiopaque marker was placed on the skin at the measured location of the hook of the hamate (Fig. 2). X-ray films were obtained in the anteroposterior plane. Radiopaque micrometers were placed in the field to allow for adjustments in magnification. The distance from the marker to the hook of the hamate was measured from the x-ray film. From anatomic dissection of cadaveric hands (n = 10), markers were also placed on Kaplan’s cardinal line, the superficial palmar arch, and the distal extent of the TCL. Kaplan’s cardinal line has been used to estimate the position of the hook of the hamate (Fig. 3). Kaplan’s line is drawn parallel to the proximal palmar crease from the thumb web space to the ulnar aspect of the palm. It reportedly crosses the hook of the hamate at the level of the ulnar border of the ring finger. The position of this line is dependent on the position of the first metacarpal and then on the mobility of the first carpometacarpal joint. Direct anatomic
Percutaneous carpal tunnel release compared with mini-open release using ultrasonographic guidance for both techniques. J Hand Surg [Am] 2010;35:437â€“45. Cited Here | PubMed | CrossRef. 11. Rojo-Manaute JM, Capa-Grasa A, Chana-Rodriguez F, et al.: Ultra-minimally invasive ultrasound-guided carpal tunnel release: a randomized clinical trial. J Ultrasound Med 2016;35:1149â€“57. Cited Here | PubMed | CrossRef. 12. Madhav TJ, To P, Stern PJ: The palmar fat pad is a reliable intraoperative landmark during carpal tunnel release. J Hand Surg Am 2009;34:1204â€“9. Cited Here |. 22. Cobb TK, Cooney WP, An KN: Clinical location of hook of hamate: a technical note for endoscopic carpal tunnel release. J Hand Surg Am 1994;19:516â€“8. Cited Here |. When the carpal tunnel is released endoscopically, clinical results indicate that postoperative morbidity is reduced. Time away from normal activities and full employment are reduced by as much as 46 %. 1 The safety of endoscopic carpal tunnel release has been documented in a large clinical series involving over 1 000 cases in a multicenter study involving 63 centers. 2 The results of this study showed minimal complications. The Centerline incorporates improved safety features compared to other ECTR devices that have been used for over 20 years.Â Gently pass the dilators distally down the ulnar side of the tunnel, hugging the hook of the hamate, and advancing distally until the tip is past the carpal tunnel. 3a. 4.8 mm dilator. Clinical location of Hook of Hamate: A Technical Note for Endoscopic Carpal Tunnel Release. Tyson K. Cobb, MD, William P. Cooney, MD, Kai-Nan An, PhD, Rochester, MN. Endoscopic carpal tunnel release involves a limited surgical exposure to release the transverse carpal ligament* (TCL).** Topographic landmarks can provide valuable reference points to enhance an operation.Â We report a technique to localize the position of the hook of the hamate and define key relationships of clinical importance for endoscopic carpal tunnel release. Technique. The landmarks used to localize the hook of the hamate are illustrated in Figure 1. After the loca-. From the Division of Hand Surgery, Department of Orthopedics, Mayo Clinic and Mayo Foundation, Rochester, MN. An overview of carpal tunnel syndrome, including aetiology, relevant anatomy, clinical features, investigations, management and prognosis.Â Carpal tunnel syndrome (CTS) is a collection of symptoms and signs caused by compression of the median nerve in the carpal tunnel at the wrist. CTS is the most common compression neuropathy of the upper limb and is three times more common in women than men. The prevalence of CTS identified in European population studies varies from 1 to 7%, with peak incidence occurring in people aged 45-64 years.1. Aetiology.Â Ulnar carpal bones: the hook of hamate and pisiform. Floor: carpal groove formed by the palmar aspect of the proximal carpal row.