

Ultrasound-guided trigger finger release : a new procedure (50 cases)

HYPOTHESIS

Ultrasound-assisted percutaneous trigger finger release, with needles, has shown some incomplete releases and morbidities on tendons and bundles.^{1,2,3,4} Some authors have used blades, underlining the necessity of a specially designed blade, which could allow a peroperative ultrasound control with the benefits of percutaneous procedures.^{5,6,7,8}

Our objective was to analyze the outcomes of a new specific blade to perform an ultrasound-guided percutaneous trigger finger release.

METHODS

Blade specifications :

- a blunt tip to penetrate intrasheath followed by a sharp blade to cut the pulley
- percutaneous (< 2mm-thin),
- cheap (nondisposable),

Cadaveric lab : 6 specimens were operated on both sides, on each fingers except thumbs (48 fingers).

We used our specific blade and a Logic e GE ultrasound device with a high frequency transducer (the L10-22-RS). We performed a 2mm incision in the MP skinfold enabling a retrograde section of the A1 pulley during an In-Plane approach. Then, in every case, we evaluated the tendons and the neurovascular bundles with an open technique.

Prospective clinical series: Under local anesthesia, 30 consecutive patients were included, 16 grade III-IV, 7 failures of steroid injection in grade I-II, 7 grade I-II diabetic patients without previous injection ; 2 forefingers, 19 thirds, 7 middles,

2 litters. Ultrasound-guided steroid injection was done at the end of the procedure in each case.

A dressing was kept for two days and a clinical examination was performed after 1 and 3 months.

RESULTS

Cadaveric (n=48) : none impairment of bundles, 2 superficial tendons lacerations, incomplete section of A1 pulley was observed in only 2 fingers (little).

Peroperative (n=30) : duration of surgery was 10 minutes (5-18), trigger release was obtained immediately in all grade III & IV

Clinical outcomes (n=30) : no recurrence of trigger finger was noticed, none sensitive disorders. The satisfaction rate was 96%. 3 patients were still painful after 3 months but improved in all three cases: one was a grade IV, two a grade I ; two litters and one forefinger.

SUMMARY POINTS

In order to improve our results, we concentrated our work on :

- a dedicated blade
- a retrograde section, so that we strictly avoided impairment of the A2 pulley
- an In-Plane ultrasound approach to get a continuous and direct visualization of the A1 pulley section
- a steroid injection at the end of the procedure to improve pain relief and efficiency.⁹

Ultrasound-guided trigger finger release, with this procedure, is reliable and efficient on trigger release, without specific morbidity.

LEVEL OF EVIDENCE : IV

Photos



Photo 1 : Specific blade for trigger finger release : a blunt tip to penetrate intrasheath before the cutting edge

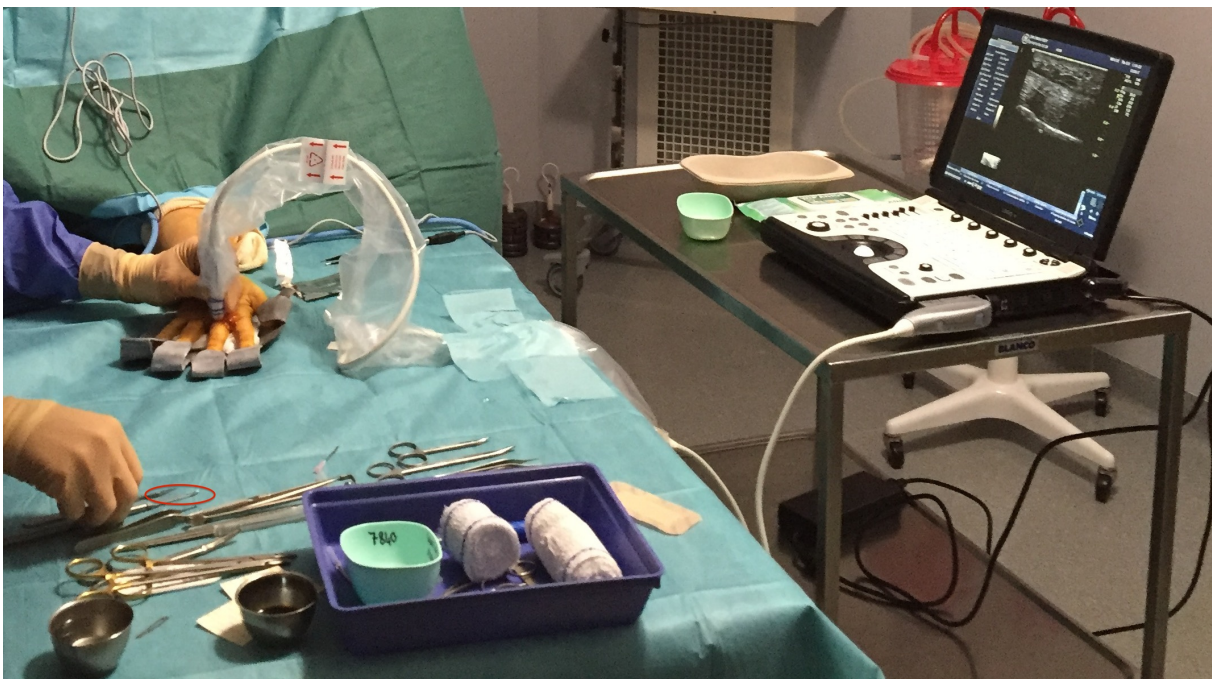


Photo 2 : installation of the ultrasound device and position of the surgeon

REMARQUES:

1 -Plaie cutanée : Dans la technique percut à l'aiguille, 3 passage d'aiguille 18 gauge sont rapporté comme étant nécessaires, hors une 18 gauge fait un mm ce qui fait un total de 3mm d'ouverture, ce qui est plus grand qu'avec la lame. ⁷

2-Dupuytren et algodystrophie : l'utilisation d'une technique mini-invasive combinée à une injection de corticoïde limite le risque d'hyper-inflammation cicatricielle et va participer, à mon avis, à une diminution des douleurs post-op, des problèmes de Dupuytren réactionnel, des problèmes d'inflammation et douleur chronique et aussi d'algodystrophie. Je pense qu'on est tous les deux d'accord là dessus. Malheureusement, ce travail ne permet pas de le prouver, donc, je préférerais en parler à l'oral dans la discussion. Les Amerloc sont surtout casse-couille sur la methodo

3-Plus besoin de garrot donc interessant dans les rares contre-indications au garrot

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