

Ultrasound-guided trigger finger release: a safer surgical 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} but has also shown some benefits in recovery.

Our objectives were to develop a safer procedure for percutaneous trigger finger release, using specific ultrasound guidance and a dedicated blade; then analyze the outcomes of this surgical technique in a clinical continuous series.

METHODS

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

We used a specific blade (1,8mm thin, nondisposable, blunt tip) and a Logic e GE ultrasound device with a high frequency transducer (the L10-22-RS). We performed a 1,5mm 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, 50 consecutive patients were included, 24 grade III-IV, 18 failures of steroid injection in grade I-II, 8 grade I-II diabetic patients without previous injection ; 3 forefingers, 27 thirds, 17 middles, 3 littles. Ultrasound-guided steroid injection was done at the end of the procedure in each case.

A dressing was kept for one day and a clinical examination was performed after 1 and 3 months.

Clinical examinations with VAS were performed pre-operatively and post-operatively.

RESULTS

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

II-Clinical series (n=50) :

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

Postoperative outcomes : no recurrence of trigger finger was noticed, none sensitive disorders. The satisfaction rate was 96%. 4 patients were still painful after 3 months but improved in all four cases: one was a grade IV, three a grade I ; two littles, one third 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, for boosting recovery.

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 méthode

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

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