Treating flexor pulley defects with the use of adjacent pulleys. Early results.

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**Objective**: Flexor tendon pulley injuries are rare. Surgical restoration once diagnosed is a challenging procedure mostly due to their complex anatomy and function. Up to now surgical operations are divided in two categories: “looped” are considered those techniques, which encircle the phalanx and “non-encircling” those that do not. We present a new “non-encircling” technique for the reconstruction of A2 pulley injury, with the use of an adjacent non-injured A1 pulley, in two cases.

**Methods**: Reconstruction of the A2 pulley was performed during the last 2 years in two cases. A 68 years old woman was diagnosed intraoperatively with A2 pulley deficit during the second procedure of a two – stage flexor tendon reconstruction at her right middle finger. The second case involved an A2 pulley deficit in a 35 years old man, who has been operated previously for rupture of the both flexors of the middle finger, one year before presentation to our department.

Both operations were performed under brachial plexus anesthesia and tourniquet. A Brunner was used to expose the lacerated tendon. Surgical exposure revealed deficit of the A2 pulley due to previous operations, which performed in other orthopedic centers. For the female patient the A1 pulley from the injured middle finger was harvested, while on the male patient that from the ring finger, without using a new incision. The graft was placed in its new place with the use of absorbable sutures and mini Mitek anchors (Depuy-Johnson&Johnson). A dorsal plaster splint for rest and protection was placed for 4 weeks.

**Results**: Passive and active protective physiotherapy was admitted immediately after the operation. Sutures removed at 15 days postoperatively and the splint at 4 weeks postoperatively. No signs of bowstringing at the middle finger were reported at 1 year follow up.

**Discussion**: Flexor pulley reconstruction is a challenging surgery. The use of adjacent A1 pulley as an autograft is a safe, fast and simple method to perform. The fact that it is a non encircling pulley reconstruction method favors its use for better functional results, while preserves surrounding soft tissues and enables better healing.