Treatment for PIP joint flexion contracture in stenosing tendovaginitis using resection of the flexor digitorum superficialis (FDS).

Which is better, total or half slip resection of FDS?

Introduction
Generally, PIP flexion contracture associated with finger stenosing tendovaginitis is resolved by incision of A1 pulley which is a major obstruction site. Sometimes certain degree of contracture of finger cannot be resolved due to remaining sliding disorder results from enlargement of the flexor tendon at A2. A2 pulley release is not recommended, because the impaired function like bowstrings and grip strength loss can be anticipated. To overcome the stenotic PIP contracture while preserving A2 pulley, we preferentially apply the sacrifice of FDS tendon including total and partial resection (Figures). Which should be better chosen between 2 ways of resection has not been debated. We reviewed whether excision of total or half slip of the FDS tendon was practicable for primary or revision cases with refractory flexion contracture.

Methods
We identified 12 fingers in 12 patients who underwent FDS resection. The average age was 76 years old (62-91). 2 fingers had one prior A1 pulley release and 1 had 2 previous surgeries. Diabetes were involved in 4. The long finger was affected in 11 and index finger in one. The positional contracture was recognized in 10 patients (Table 1). The intraoperative findings on tendons were recorded. Clinical outcome was reviewed including ROM, grip strength, Visual analogue score (VAS). We compared background, intraoperative and postoperative data in 2 methods of FDS resection with unpaired t-test and chi-square test.

Results
The postoperative PIP contracture was 7 degrees, full extension was achieved in 7 fingers at a mean of 18 months postoperative. No case of swan neck deformity was recognized. VAS was 14 points, and grip strength was 88% against contralateral side. Total active arc motion was 241 degrees. Between half slip and total resection, total arc was significantly different with 219 / 252 degrees, as opposed to insensitiveness among the other variables (Table 2).

Discussion
Open release of A1 pulley is widely acceptable procedure. However, a subset of patients presents with both trigger finger and PIP contracture with or without surgery of annular pulley. 3 surgical option has been proposed and performed: partial FDS resection, complete resection, or reduction tenoplasty.

We agree with Farve Y and Kinnen L that the chronic inflammation of the old and degenerative tendon caused an enlargement and/ or shortness of the FDS and induced the flexion contracture of the PIP joint.

Conclusion
Resection of hemi or total slip of FDS is an effective method for treatment of residual PIP contracture. In consideration of total arc motion in our cases at final follow up, total resection might provide wider space for flexor digitorum profundus to glide than half slip.