authors feel that a 5-0 polyester suture should be considered for the epitendinous component of flexor tenorrhaphy as we have demonstrated that it produces a stronger repair with less gapping than traditional techniques in a porcine model.

Ex-Vivo Biomechanical Study Comparing the Cross-Locked Cruciate Repair with a Continuous Suture Repair for Oblique Flexor Tendon Lacerations

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INTRODUCTION: Flexor tendon injuries remain a contentious issue in hand surgery as reflected in the multitude of differing techniques. A significant proportion of tendon transections are oblique and they are typically managed in a similar fashion to straight transections, using a multi-strand technique. In our practice, we have observed that there is significant bunching at the repair sites when standard techniques are used to repair oblique lacerations, leading to impaired gliding through the intricate pulley system. We hypothesized that a simple running suture repair for oblique tendon transections would have a reduced cross-sectional area (CSA) at the repair site compared to a traditional repair yet would have a similar tensile strength.

METHODS: 60 porcine tendons were completely transected to create oblique lacerations for repair. Tendons were randomly assigned to one of three repair groups: one cross-locked cruciate repair group with a 3-0 core polyester (Ethibond™) suture and 5-0 polypropylene (Prolene™) epitendinous repair, and two running repair groups with a 3-0 polyester or a 3-0 polytetrafluorethylene (PTFE, Seramon™) suture. No epitendinous repair was performed on the running repair groups. Biomechanical testing was carried out with a tensiometer.

RESULTS: The running polyester and PTFE groups had similar ultimate strengths to the one cross-locked cruciate repair (89.9±12.3 N, 80.7±9.3N and 77.2±16.4N respectively). No significant difference was found in the 2mm gap formation force between the groups. The percentage change in CSA post-repair was significantly less in the polyester and PTFE running suture groups compared to the cross-locked cruciate repair group (5.5±2.9%, 4.9±2.1% and 20.2±5.3% respectively).

CONCLUSION: We have shown that a running suture provides similar tensile strength when compared to traditional techniques for oblique lacerations. The running technique is not as intricate to perform or as difficult to master as a traditional multi-strand technique but it is simple to learn and produces equally solid repairs. Furthermore, the running repair with a reduced CSA at the repair site may facilitate better gliding in zone II injuries. Oblique tendon lacerations are a distinct clinical entity and should be managed accordingly.

The Role of Acellular Dermal Matrix in Prevention of the Postoperative Adhesion after Tenorrhaphy in the Hand

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INTRODUCTION: Tendon rupture is one of the most frequently occurring trauma in the hand. Because postoperative adhesion around the area of tenorrhaphy is almost inevitable, there have been numerous intraoperative and postoperative methods suggested by the surgeon around the world, including tenorrhaphy methods, suture material itself, anti-adhesion agents or postoperative physical therapy. Among the anti-adhesion agents, artificial dermal matrices were not proven in their efficacies in the prevention of adhesion yet.1-3 We present the long-term follow-up data and their role in tenorrhaphy.

METHODS: The study was performed in single institution, Uijeongbu St. Mary’s Hospital, one
of the national emergency headquarter in South Korea. A total of 87 patients was enrolled in the study. Single tendon rupture cases in Flexor zone I from index finger to little finger were included in the study, and the previous trauma history or underlying disease affecting the motion of the hand were considered as exclusion criteria. The tenorrhaphy was performed by single surgeon, HS Shim, and the bovine dermal matrix was wrapped around the tenorrhaphy site before the skin closure in the study group. The hyaluronic acid based anti-adhesion agents was applied in both group.

RESULTS: The results were assessed by the post-operative range of motion (ROM). The range of the motion in the distal / proximal interphalangeal joint (DIPJ / PIPJ) was recorded at 6-month postoperative period. In the control group of 46 patients, the average ROM was 78 / 75 degrees respectively. In the study group of 41 patients, the average ROM was 84 / 85 degrees which was significantly greater than control group.

CONCLUSION: The surgeon should be aware of multiple strategies for prevention of adhesion in tenorrhaphy of the hand. Among these, the artificial dermal matrix has a definite role for anti-adhesion by creating barrier from adjacent tissue.

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A Unique Case and Review of Literature of an Epithelioid Sarcoma of the Hand

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Epithelioid Sarcoma is a rare form of soft tissue sarcoma most commonly found in the hand and forearm. While it is the most common hand sarcoma, the infrequency in which it presents often leads to misdiagnosis and late identification. We present a case of a sixty-seven-year-old man who was treated for three months for a recurrent infection of the left thumb web space prior to be sent to our institution for further evaluation. Despite repeated irrigation and debridement and broad spectrum antibiotics the lesion only continued to grow. No organisms were isolated on culture and ultrasound of the mass showed a large complex circumscribed mass in region of left thenar eminence/first webspace with appearance favoring a hematoma. Superimposed infection could not be excluded. Given suspected infected hematoma the patient was taken to the operating room for exploration and debridement. A large ulcerated and necrotic lesion was identified and removed. Pathological analysis was consistent with epithelioid sarcoma. Epithelioid tumors often are believed to be recurrent infections, DupuytrenOs nodules and other types of tumors prior to being correctly identified. It is important to always have a high index of suspicion for malignancy and metastatic potential even when treating an apparently benign process.

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A Prospective Evaluation of Health Related Quality of Life in Lymphedema Treatment

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