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Olecranon Non-Union in a Smoker

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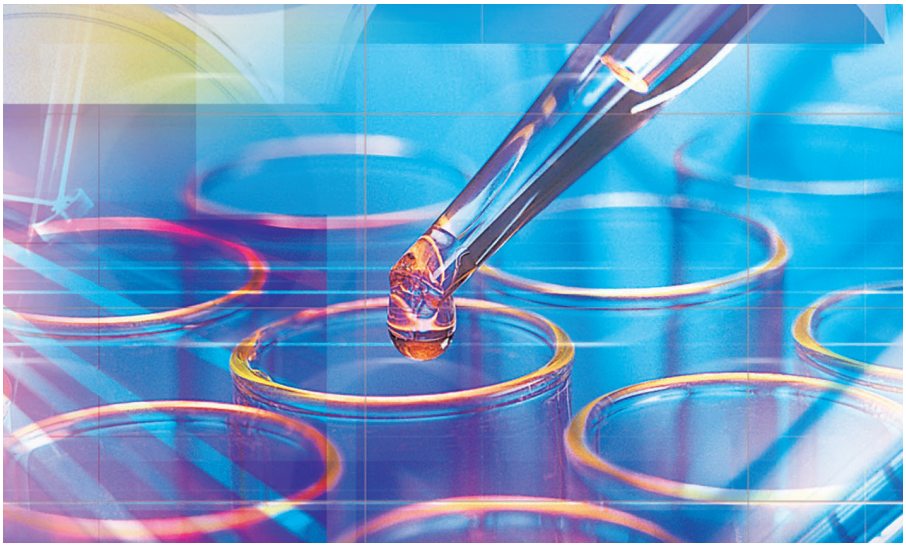

PATIENT HISTORY

A 55-year-old, Right Hand Dominant female, presented with right elbow pain 3 months after having fallen and landing onto her elbow. She had constant 6/10 pain, affecting her ability to sleep. She had mild limitations of activities of daily living. Her significant past surgical history is a radial head resection and ulnar nerve transposition 30 years ago of the right elbow. She is a 2 pack-a-day smoker for 25 years.

EXAMINATION:

The range of motion of the right elbow was 10°-120° with 90° of supination and 80° of pronation. There was no muscle atrophy, and her skin and neurovascular examination were intact. She had 5/5 supination/pronation as well as flexion/extension strength with no instability of the elbow. Patient was tender to palpation over olecranon and triceps insertion area, and she had pain with resisted elbow extension.

RADIOGRAPHIC FINDINGS:

Plain radiographs revealed a prior radial head resection with elbow arthritis. The CT scan (Figure 1) revealed a non-union of the olecranon. An MRI (Figure 2) revealed increased signal at the non-union site.

Figure 1

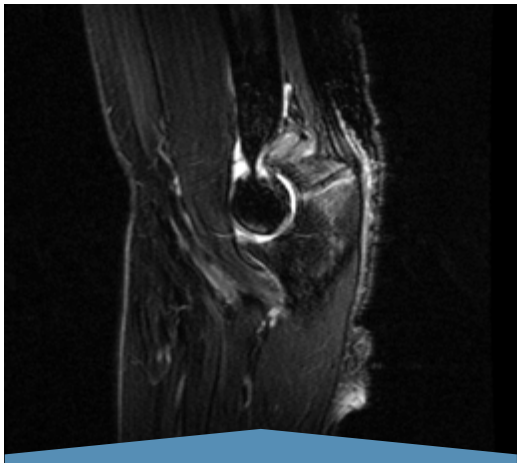

Figure 2

BioDFactor®
Viable Tissue Matrix

TREATMENT:

The patient was taken to surgery where she underwent an internal fixation of the non-union with a single partially threaded cannulated compression screw. The olecranon was drilled and the intra-medullary canal was not reamed other than the drill bit being used for the screw. The non-union site was not taken down or debrided. Once the olecranon was drilled, demineralized bone mixed with BioDFactor was introduced into the canal with a syringe (Figure 3). The cannulated screw was then placed in compression.

Figure 3

POST-OPERATIVE COURSE

The patient had an uncomplicated post-operative course clinically and was pain free at 4 weeks post-operatively. She did not have any wound healing problems nor heterotopic bone formation. Post-operative lateral radiographs at 2 weeks (Figure 4), 1 month (Figure 5), and 2 months (Figure 6) show complete healing and union of the fracture site.

Figure 4

Figure 5

Figure 6

About Dr. Mirzayan

Raffy Mirzayan, M.D. is a Clinical Professor of Orthopaedic Surgery at the University of Southern California Keck School of Medicine. He is the founder and director of the Advanced Concepts in Sports Medicine course in Las Vegas. He is a member and serves on several committees of national orthopaedic societies, including AAOS, ASES, AOSSM, AANA, ISAKOS, and AOA.
His orthopaedic interests include athletic injuries of the knee, shoulder and elbow, including ligament repair and reconstruction, arthroscopy and cartilage restoration and repair.

BioDFactor is regulated by the FDA under 21 CFR Part 1271 and Section 361 of the Public Health Service Act.

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