Clinical Summary

Chronic Midsubstance Patellar Tendon and Retinacular Rupture: Primary Repair Enhancement Using Bioinductive Implant Augmentation

Authors: Brent A. Geers, D.O. Shariff K. Bishai, D.O., M.S
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BioBrace® Publications

Aim:

To describe the surgical technique and indications for using BioBrace® biocomposite scaffold in the repair of chronic midsubstance patellar tendon and retinacular ruptures.

Indications for Patellar Tendon Repair with Biobrace®

- **Chronic Midsubstance Patellar Tendon Ruptures:** Where tendon-to-tendon healing is required.
- **Poor Tissue Quality:** Cases with midsubstance tears and poor host tissue.
- **Retinacular Tears:** Medial and lateral retinacular injuries requiring augmentation.

Surgical Techniques

- **Patient Positioning:** Supine with a bump placed under the ipsilateral hip away from the sciatic nerve and a bone foam places under the injured knee.
- **Incision and Dissection:** Midline incision, centered over the patella and extending distally to the tibial tubercle.
- **Tendon Fixation:** Horizontal mattress sutures through tendon remnants and 23x30mm BioBrace®, ensuring proper alignment and tension.
- **Retinacular Repair:** A 5x250 BioBrace® is placed in the retinacular injury both medically and laterally. It is trimmed to fit the appropriate distance and then sewn in with a #2 Dynacord.

Postoperative Rehabilitation

- **Post Op Management:** 6 weeks in a hinged knee brace with the knee locked in extension to help facilitate tendon healing.
- **Gradual Mobilization:** Followed by a structured rehabilitation protocol to restore function and gradual weight bearing.

Key Takeaways

- **Enhanced Healing:** BioBrace® promotes rapid cellular infiltration and tissue growth.
- **Mechanical Support:** Provides load-sharing strength at time zero, reducing re-rupture risk.
- **Improved Outcomes:** Early results show promising restoration of tendon strength.
- **Future Potential:** BioBrace® may be widely applicable for various tendon and ligament repairs.

Le, D., & McMillan, S. (2023). A Novel Distal Biceps Rupture Repair Technique Utilizing a Biocomposite Scaffold. Surgical technology international, 42, 290–293. https://doi.org/10.52198/23.STI.42.OS1656

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