

Immunohistochemical Assessment of Collagen in an Explanted GORE Bioabsorbable Hernia Plug at 13.5 Months

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Clinical History

- ▶ The patient is a 53 year old male who returned to clinic 13.5 months after receiving a GORE Bioabsorbable Hernia Plug and polypropylene overlay mesh for repair of a right inguinal hernia. Excessive laxity in placement of the mesh around the cord led to a recurrence, and a reoperation via an open pre-peritoneal approach was performed. During reoperation, tissue in the area of the absorbed GORE Bioabsorbable Hernia Plug was biopsied for histological evaluation.

Histological Findings

- ▶ A Milligan's trichrome stained section of the tissue sample demonstrates the vast presence of collagen along with a few remaining artifacts of the GORE Bioabsorbable Hernia Plug (Figure 1).
- ▶ Immunohistochemical staining with anticollagen type I (Figure 2) and anticollagen type III (Figure 3) shows a predominance of type I collagen and very little type III collagen in the space formerly occupied by the bioabsorbable prosthesis.

Surgeon Comments

- ▶ At 13.5 months post-op, the predominance of type I collagen in the space formerly occupied by the bioabsorbable prosthesis provides evidence that the GORE Bioabsorbable Hernia Plug functioned as expected, providing a scaffold for guided tissue regeneration during inguinal hernia repair.

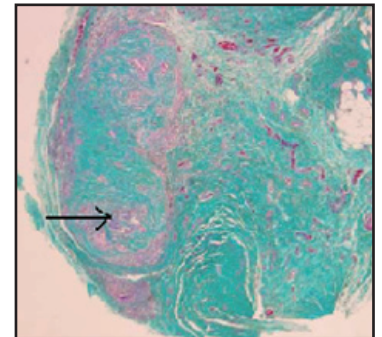


Figure 1. 4X, Milligan's trichrome. The blue areas demonstrate collagen deposition where the GORE Bioabsorbable Hernia Plug once existed. Arrow points to remaining bioabsorbable material (purple).

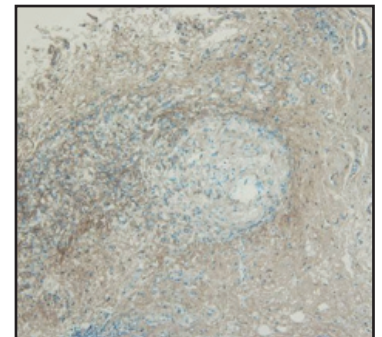


Figure 2. 10X, anticollagen type I. Dark brown color indicates an abundance of type I collagen in the space formerly occupied by the bioabsorbable prosthesis.

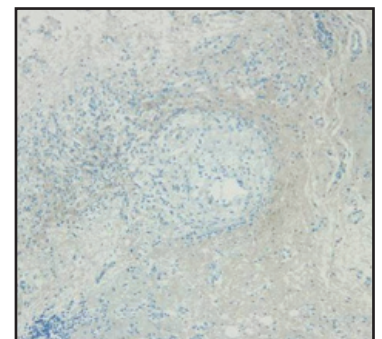


Figure 3. 10X, anticollagen type III. Faint brown color indicates a lack of type III collagen in the space formerly occupied by the bioabsorbable prosthesis.



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