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.