

Case Study

Adhesion Prevention In Endoscopic Surgery with SprayGel™ Adhesion Barrier

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Introduction

Adhesions are common after abdominopelvic surgery and are associated with adverse clinical consequences, including sterility, pain, and bowel obstruction. Recently a new product, SprayGel Adhesion Barrier – a polyethylene glycol (PEG)-based product – has become available to reduce the incidence, extent and severity of post-operative adhesions. We investigated the results of the SprayGel Adhesion Barrier in a patient with chronic post-operative adhesions.

Patient History

Age: 42 years

History of more than nine abdominopelvic surgeries (including 3 C-sections, hysterectomy, gallbladder removal, ovarian cyst and several adhesiolysis procedures)

Chronic abdominal pain

Problems with bowel obstruction

Methods and Materials

This forty-two year old woman presented with severe adhesions in the midline up to the liver, left and right side in the pelvis and scar tissue that occurred from a Pfannenstiel incision. This patient underwent a gasless laparoscopy procedure targeting extensive adhesiolysis in all abdominal quadrants.

An area of dense adhesions between the omentum and the anterior abdominal wall involving the loops of the small bowel was identified between the umbilicus and the liver. Further examination of the pelvis indicated that the colon was adhered to the left pelvic brim followed by a dense adhesion from the pelvic wall to the pouch of Douglas. On the right pelvic brim, small and large bowel were adhered, covering the right ovary.



Severe Bowel Adhesion at Initial Surgery Look



Initial Surgery After Adhesiolysis and Application of SprayGel

Methods and Materials (continued)



Abdolift System

Utilizing the Abdolift® (Karl Storz, Germany), a gasless system allowing visual control for elevation of the abdominal wall and proper anatomical positioning, two additional suprapubic ports of 10 mm were installed, allowing good access to the adhesions. Adhesiolysis of the left pelvic wall, right ovary, small bowel and colon were performed. Following hemostasis at all of the surgery sites, the SprayGel™ Adhesion Barrier was applied to all areas of adhesiolysis. Following liberal irrigation of the SprayGel sites and placement of a drain, a small amount of Ringer's solution was left intra-abdominally.

Abdominoplasty was performed excising the old incision and scar tissue with the preparation of the caudal and proximal skin flap. A subcutaneous drain was inserted and the incision was closed in layers.

Results

Seven days later a gasless second-look laparoscopy (SLL) was performed. At that time, no adhesions were present at the sites of previous adhesiolysis. There were no new adhesions noted on any other surgical site with the exception of a small adhesion at the left abdominoplasty incision where no SprayGel was applied during the previous surgery. This adhesion tissue was easily removed and SprayGel was applied at the incision sites.



No Adhesion at Second-Look Laparoscopy

Conclusion

With respect to the severity of this case, the results of gasless laparoscopy with the Abdolift System and the SprayGel Adhesion Barrier are very promising. The specific advantages over other barrier methods currently available include site-specific application, tissue adherence and the ability to stay in place as a barrier for up to seven days. No side effects or complications occurred in this case. Clinical trials have been and continue to be performed in Europe and the United States, further supporting the efficacy of SprayGel as an abdominopelvic adhesion barrier.

Technique Highlight

If SprayGel had been applied during the primary surgery to the laparoscopic trocar incision, this adhesion could have been prevented.



Adhesion at Primary Surgery Incision Site

Patient Follow-up

"I first learned about adhesions causing pain following a laparotomy procedure to remove an ovarian cyst in 1979. Following this surgery, I began to experience a pulling or tearing sensation which was painful but did not cause constant or continuous discomfort.

Over twenty years later and after enduring multiple laparotomy procedures, I had experienced ongoing health problems including a bowel obstruction. I was referred to a pain management clinic and placed on several medications for pain relief.

In July of 2002, I had adhesiolysis performed in Germany by Dr. Daniel Kruschinski. Later a second-look laparoscopy was performed. I felt very different following the first procedure. There has been some incisional pain but no pulling, cramping, nausea or vomiting.

I gave up my silver anniversary trip to Hawaii to go to Germany for this surgery and based on the results with SprayGel, would forego a trip to Hawaii anytime. I have a pain-free life back."

LG, August 5, 2002