POLYGANICS

TRANSFORMING PATIENT RECOVERY

Dr Maarten Ellis, Orthopedic surgeon at Rivierenland Hospital, Tiel, the Netherlands, reports on his experience using VIVOSORB®.

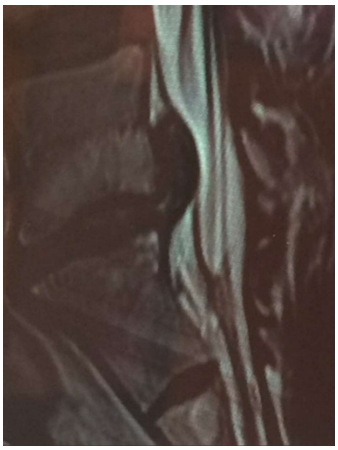
Preliminary Clinical Experience to Assess the Use and Safety of VIVOSORB® Sheet in Herniated Lumbar Disc Surgery

Post-operative peridural fibrosis is a common late complication of spinal surgery.
VIVOSORB® is a bioresorbable copolyester poly(D,L-lactide-ε-caprolactone), which is currently used to prevent post-operative soft tissue adhesions in tendon and nerve surgery.
Due to this prior experience, we wanted to explore the use and safety of this material in herniated lumbar disc surgery by placing it on the dural sac and nerve root.

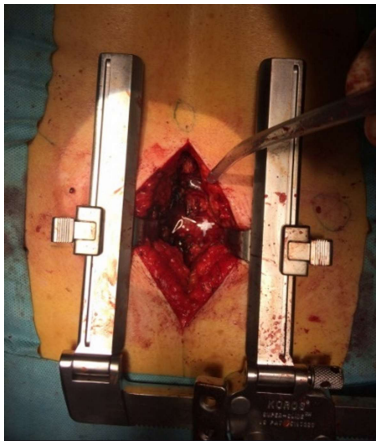
Between May 2017 and December 2018, fifty seven consecutive patients were treated for a single-level herniated lumbar disc by the same orthopedic surgeon. VIVOSORB® was placed on the dural sac and nerve root as a temporary protective sheet to prevent eventual fibrosis.

The following operative technique was used in all patients:

1. After general anesthesia, the patient was placed in a knee-chest position.
2. Localization via fluoroscopy and methylene blue dye injection was used to confirm the level.
3. A mini-open procedure was performed using an approximately five- to eight-centimeter incision and tissue spreader.
4. Following removal of the herniated disc material, a five by seven-centimeter VIVOSORB® sheet was cut to the appropriate size and inserted to cover the exposed nerve root and dural sac, without suture fixation.



MRI of the lumbar spine.
Herniated disc L5-S1.



VIVOSORB® 3 x 2 cm placed bilaterally

The post-operative protocol involved supervised same-day mobilization with hospital discharge the following day. Patients were restricted to light activities in the first six weeks. All patients were seen three weeks post-operatively by the operating surgeon and were instructed to immediately contact the orthopedic department if they experienced any adverse reaction.

One patient required re-operation because the incorrect level had been operated.

There were no cases involving progressive neurologic deficit, infection or spinal fluid leakage. No adverse reactions were observed or reported that can be attributed to the use of VIVOSORB®, such as inflammation or increased post-operative pain.

VIVOSORB® can be applied easily in the mini-open technique. Our experience demonstrates that VIVOSORB® can be safely used in herniated lumbar disc surgery. Further clinical study is needed to assess its effectiveness in the prevention of peridural fibrosis.