Hypothesis

Standard polypropylene (PP) implants cannot be depicted with radiography. In times of mesh discussions and regulatory affairs in pelvic floor surgery we pursue a new concept with the polyvinylidenfluoride (PVDF) visible mesh. This mesh type features superior material characteristics in comparison to PP and is loaded with iron particles that can be visualized on MRI. In 2013 Hansen et al. initially reported on PVDF mesh loaded with superparamagnetic iron oxides in humans and visualization with MRI. For the first time we produced an animated 3D reconstruction of the implanted mesh after sacrocolpopexy with actual MRI data.

Abstract 352 15/09/16
Session 19 1:25 pm
ePoster Station 6
3D animated visualization of PVDF Visible Mesh Implant after Sacrocolpopexy
Ralf Anding1, Ruth Kirschner-Hermanns1, Nienke Lynn Hansen2, Nils Andreas Kraemer2, Stefan Latz2, Stefan Müller3
1Neurourology, University Clinic Bonn, 2Radiology, University Clinic Aachen, 3Urology, University Clinic Bonn, Germany

Introduction of extraperitoneal Sacrocolpopexy in 2011 by Önol et al. [1]

Extraperitoneal technique of sacrocolpopexy with PVDF Mesh implant (Dynamesh® PR visible)

MRI Sequences with well depicted mesh ( ), in coronary (1-3) and sagittal (4) sections from S1 to the vaginal cuff

Coronary T2-weight TSE (Turbospinecho) Sequences
Coronary GRE-Sequence
Sagittal T2wTSE

Results

10 visible mesh implants from 04/13 – 06/16
No complications. 1 rectocele after 2 years
In all dynamic MRI sequences the mesh implants could be visualized well. With the transversal slices the visible mesh could be reconstructed and further animated in 3D.

Conclusion

The utilization of the MRI visible mesh implant in pelvic floor surgery allows the visualization of the postoperative result and possible sequelae. The 3D imaging technique with visible mesh offers excellent opportunities for future developments in pelvic floor surgery.

References