



Permanent Polymer Coating for in vivo MRI Visualization of Tissue Reinforcement Prostheses

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Résumé en anglais	<p>The clinical advantage of MRI visualization of prostheses in soft tissue prolapses is very appealing as over 1?000?000 MRI-transparent synthetic meshes are implanted annually, and postoperative complications such as mesh shrinkage and migration are frequent. Here, the synthesis of a new material composed of a DTPA-Gd complex grafted onto a backbone of PMA via a covalent bond is described (DTPA-Gd-PMA). This new polymer is sprayed onto meshes and gives an MR signal for a long period without any significant release of Gd. In vitro cytocompatibility tests on fibroblasts show limited cytotoxicity. Microscopic investigations indicate that vital cells rapidly colonize the material. Finally, coated meshes implanted in rats are easily recognizable using an MR imaging system.</p>
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