

Increased inflammatory reactions due to absorbable materials

For heterologous breast reconstruction there are various tissue-supporting meshes available, which are made of the widest range of materials. In addition to the titanised TiLOOP® Bra meshes, there are also fully and semi-absorbable meshes.

Absorbable materials, such as vicryl (polyglycolic acid / polylactate), are produced in the body by means of hydrolysis decomposed to CO₂ and H₂O.¹ The result of this increased CO₂ concentration in the blood is a decreasing pH value.² A low and thereby acidic pH value leads to an increased tendency to inflammation.³ The resulting inflammatory reaction can cause wound healing disorders, e.g. seroma and increased capsular formation.³ The increased capsular formation raises the risk of capsular contractures.

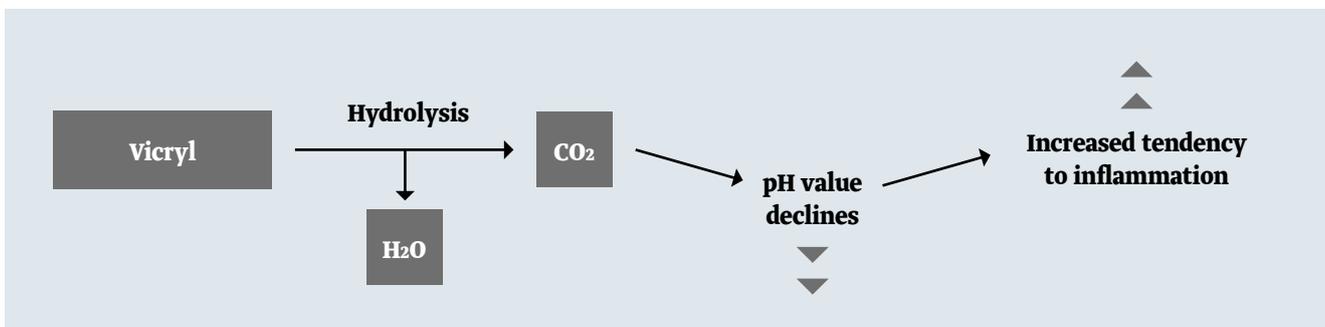


Fig. 1: Schematic overview on Vicryl degradation by hydrolysis

Inflammation rate

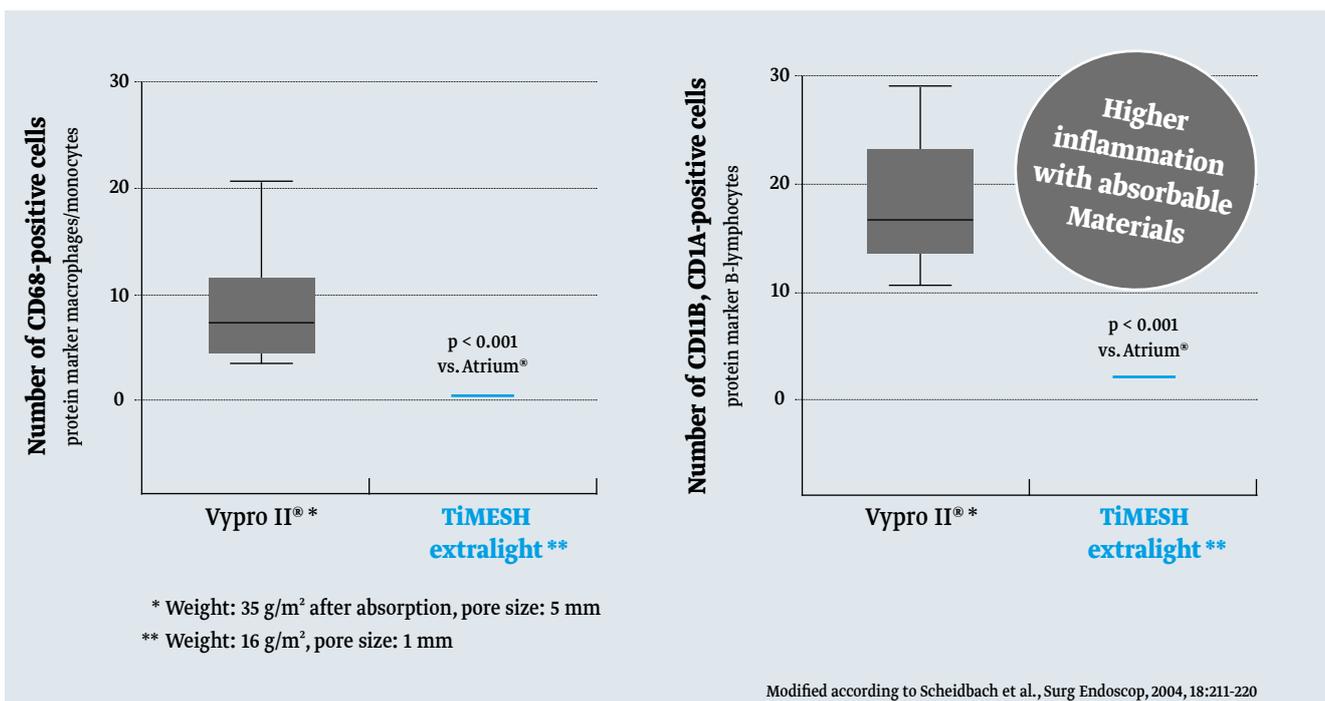


Fig. 2: Concentrations of marker proteins for inflammatory cells (macrophages and B-lymphocytes) after implantation of the partially absorbable mesh (Vypro II®) and the titanised non-absorbable mesh (TiMESH extralight) in animal models

Seroma rate

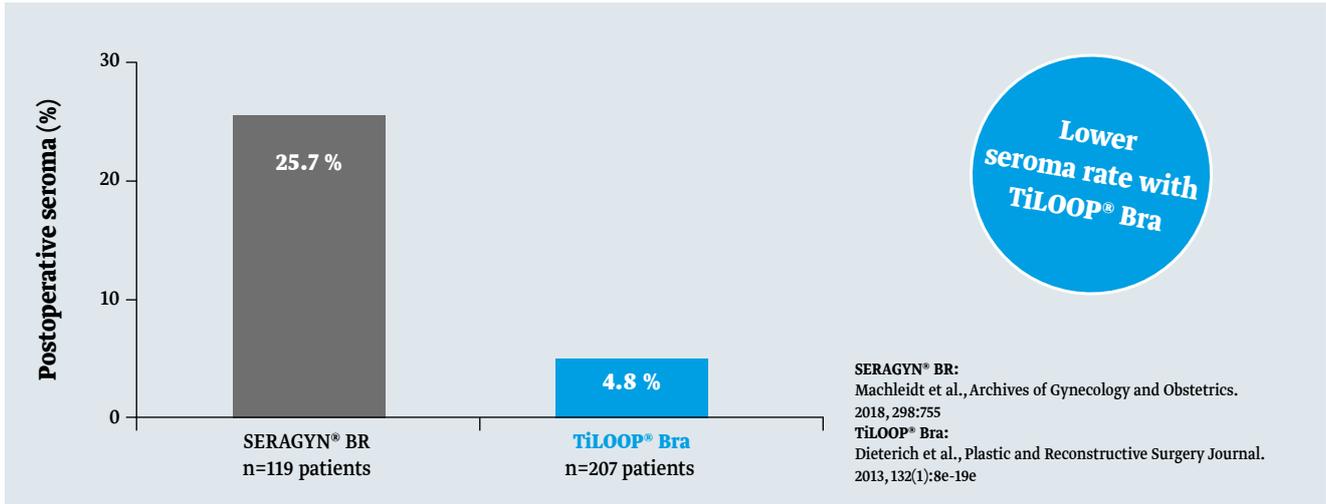


Fig. 3: Postoperative seroma rate of a partially absorbable mesh (SERAGYN® BR) in comparison to a titanised non-absorbable mesh (TiLOOP® Bra)

Conclusion

The increased inflammation rate and the corresponding higher seroma formation are the reasons why pfm medical does not use absorbable materials.

Philosophy of the pfm medical meshes:

- ▶ As less material as possible
- ▶ The highest possible compatibility
- ▶ No absorbable materials
- ▶ Evidence-based medicine

The improved compatibility caused by the titanisation is used to increase the patient outcome and to improve the quality of life: as titanised mesh for hernia surgery, breast surgery or for pelvic floor reconstruction.

References



Further information:

www.pfmmedical.com/meshimplants-professionals

Literature

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2. Kim H.W. et al., Int J Biol Macromol. 2005 Dec 30; 37(5): 221-6. Epub 2006 Jan 6.
3. Hutmacher D. et al., Int J Oral Maxillofac Implants. 1996 Sep-Oct; 11(5): 667-78.

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Should you have any questions our Regulatory and Clinical Affairs Team will be glad to assist you.

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