Implant-based breast reconstruction using a titanium-coated polypropylene mesh (TiLOOP Bra): a multicenter study of 231 cases.

Abstract:
An alternative to implant-based breast reconstruction using acellular dermal matrix is the use of a titanium-coated polypropylene mesh. The mesh was approved for implant-based breast reconstruction in Europe in 2008, but only limited clinical data are available. Two hundred seven patients (231 breasts) with skin-sparing/nipple-sparing or modified radical mastectomy and immediate or delayed implant-based breast reconstruction using titanium-coated polypropylene mesh were evaluated retrospectively. The primary endpoints were identification of patient-related and surgical factors that were predictive for an adverse outcome and the development of recommendations for patients eligible for implant-based breast reconstruction using the mesh. Complications were divided into major (need for additional surgery), minor (conservative treatment), and implant loss. Univariate and multivariate logistic regression analyses were performed to determine the influence of the patient- and procedure-related characteristics on postoperative complications and implant loss. No risk factors were observed for patient-associated complications. Major complications occurred in 13.4 percent, minor complications in 15.6 percent, and implant loss in 8.7 percent of patients. Univariate
analysis revealed procedure-related risk factors for postoperative complications with a bilateral procedure (p = 0.013) or skin expansion before implant surgery (p = 0.043). Multivariate analysis confirmed these risk factors and revealed an increased risk for implant loss in patients with skin necrosis (p< 0.001) and capsule fibrosis (p< 0.001). This titanium-coated polypropylene mesh shows acceptable complication rates and can be a helpful device in implant-based breast reconstruction. The mesh should only be used in primary cases and, when adhering to the proposed indications, is a safe and convenient option in implant-based breast reconstruction. Risk, III.