Technical results and complication rates after skin-sparing and nipple-sparing mastectomy and immediate implant based reconstruction using a porcine tissue matrix Strattice® for implant coverage

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Introduction
Skin-sparing and nipple-sparing mastectomies are increasingly used for prophylactic and therapeutic purposes and replace conventional mastectomies in selected cases. We report on our first 27 cases of skin-sparing or nipple-sparing mastectomy with immediate implant based reconstruction using a porcine tissue matrix Strattice® for implant coverage.

Patients and Methods
In total 27 implant based breast reconstructions using a porcine tissue matrix for implant coverage were performed in 22 patients (5 bilateral) after skin-sparing or nipple-sparing mastectomy. The indications for mastectomy were prophylactic in 3 patients and therapeutic in 19 patients. Five skin-sparing mastectomies with resection of the nipple areola complex and 22 nipple-sparing mastectomies were performed.

Results
In 74.1% (20/27) of the procedures periareolar incision with lateral extension was performed. In 25.9% (7/27) of the procedures the incision was made in the inframammary fold. Pathologic examination of the removed breast revealed multicentric invasive carcinoma in 55.5% (15/27), extensive DCIS with invasive carcinoma in 18.5% (5/27), DCIS in 11.1% (3/27) and was negative in 14.8% (4/27), the prophylactic group. The mean implant size was 290 ml (min 180 ml, max 450 ml). Complications accounted for skin break down with implant loss in 7.4% (2/27), secondary hemorrhage requiring revision in 3.7% (1/27), complete nipple necrosis requiring excision in 3.7% (1/27), minimal nipple necrosis with complete recovery without intervention in 14.8% (4/27) and inflammation requiring antibiotics in 3.7% (1/27).

Patient satisfaction was 95.4% (21/22) and subjective cosmetic result was excellent in 90.9% (20/22).

Conclusion
Skin-sparing and nipple-sparing mastectomies are replacing conventional mastectomies in selected cases. Immediate implant based reconstruction with implant coverage using a porcine tissue matrix Strattice® is an innovative approach resulting in an excellent cosmetic result. It is technically feasible and complication rates are acceptably low.