

Endoscopic mastectomy with immediate implant-based breast reconstruction in risk-reducing indications

Abstract

Introduction:

Risk-reducing mastectomy (RRM) is a crucial part of prophylaxis for women burdened with a genetic predisposition for breast cancer, like BRCA1 or BRCA2 mutation carriers, or women with a significant family history of breast cancer. Minimal access breast surgery (MIBS) has gained popularity, both in therapeutic and prophylactic indications, due to its favourable cosmetic outcomes and non-inferior oncological results. As endoscopic mastectomies use a variety of techniques and materials, the impact of this method on complication rates is unclear. Cost analyses in Asian studies indicate that endoscopic mastectomies cost more than conventional procedures. This monograph is the first study in Poland to report results from endoscopic mastectomies for preventive indications.

Aim of the study: evaluating the effectiveness of endoscopic-assisted mastectomy for risk-reducing purposes.

Material and Methods:

A total of 80 endoscopic-assisted risk-reducing mastectomies were performed in the Department of Surgical Oncology and Breast Diseases between September 2023 and April 2025. Surgical results were compared with the historical group of patients undergoing conventional risk-reducing mastectomy in our Department between May 2022 and June 2023.

Results:

None of the endoscopic procedures required conversion to open surgery. There were no differences in the mean weight of the removed specimen or in the mean volume of the inserted implant. Endoscopic procedures took significantly longer – on average 148 minutes vs. 108 minutes in the open group ($p < 0.0001$). The overall complication rate in the E-NSM group was 13.25%, significantly lower than in the control group (32.5%; $p = 0.0051$). Significant difference in complications was related to surgical site infection (2.5% in the E-NSM group vs. 16.25% in the CM group; $p = 0.0050$) and wound dehiscence (0% in the E-NSM group vs. 8.75% in the CM group; $p = 0.0136$). As a result of complications, implant loss was observed in 3 patients in the study group and in 7 in the control group ($p = 0.3279$). Despite using disposable equipment, such as a single port and an advanced bipolar tool, in the E-NSM group, the endoscopic procedure cost less than the traditional approach (≈ 4700 EUR vs ≈ 6600 EUR for the CM).

Conclusions:

The results confirm the safety of the E-NSM technique, as it was associated with a lower complication rate than the classic RRM group. E-NSM was not associated with the increased cost of the procedure and hospitalization. The study results indicate that endoscopic-assisted mastectomy may be an alternative to conventional surgery.