Abstract

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Microwave Ablation without Subsequent Lumpectomy versus Breast-Conserving Surgery for Early Breast Cancer: a Propensity Score Matching Study

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Abstract

Purpose: To compare the efficacy of ultrasound-guided percutaneous microwave ablation (MWA) without subsequent lumpectomy and breast-conserving surgery (BCS) in patients with early breast cancer (EBC).

Methods: This retrospective cohort study included 106 patients with EBC (T0/1/2 N0/1 M0) treated by BCS or MWA from October 2014 to December 2020 in a single institution. Propensity score matching (PSM) was performed at 1:1 to balance the baseline characteristics. The tumor progression, overall survival (OS), disease-specific survival (DSS), complications, and cosmetic results were compared.

Results: Before PSM, 21 patients underwent MWA and 85 patients underwent BCS were enrolled. After PSM, each group ha d 21 patients and the baseline characteristic were balanced. MWA needed shorter operative time (60min vs 101min, P<0.001) under local anesthesia compared to the BCS under general anesthesia. For the management of metastatic lymph nodes, five (5/21, 24%) patients with six metastatic nodes underwent ablation in MWA group and three patients (3/21, 14%) with six metastatic nodes underwent axillary lymph node dissection in BCS group. Less patients in MWA group received postoperative adjuvant chemotherapy (14% vs 48%, P=0.04) and radiotherapy (14% vs 81%, P<0.001) for comorbidities. During a median follow -up of 43 months (range, 15-89 months), there was no significant difference in tumor progression (10% vs 2%, P=0.18), OS (96% vs 99%, P=0.36), DSS (100% vs 99%, P>0.99), and complications (0% vs 19%, P=0.58). All the patients in MWA group reported excellent cosmetic results but 29% of BCS patients expressed dissatisfaction for breast asymmetry (10%) and scar formation (29%)(P<0.001).

Conclusion: This preliminary study showed that in selected early breast cancer patients, microwave ablation without subsequent lumpectomy has comparable tumor control effect with breast-conserving surgery and better cosmetic results during an intermediate follow-up. Microwave ablation provides a safe and feasible choice for patients reluctant or intolerant to breast-conserving surgery.

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Biography

Yu-qing Dai is from Peking University, China. Presented work on Microwave Ablation without Subsequent Lumpectomy versus Breast-Conserving Surgery for Early Breast Cancer: a Propensity Score Matching Study.