META-ANALYSIS OF THE EFFECT OF PREOPERATIVE BREAST MRI ON THE SURGICAL MANAGEMENT OF DUCTAL CARCINOMA IN SITU

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Background Magnetic resonance imaging (MRI) has been used increasingly in the diagnosis and management of women with invasive breast cancer. However, its usefulness in the preoperative assessment of ductal carcinoma in situ (DCIS) remains questionable. A meta-analysis was conducted to examine the effects of MRI on surgical treatment of DCIS by analyzing studies comparing preoperative MRI and conventional preoperative assessment.

Methods Using random-effects modeling the proportion of women with various outcomes in the MRI versus no-MRI groups was estimated, and the odds ratio (OR) and adjusted OR (adjusted for study-level median age) for each model were calculated.

Results Nine eligible studies were identified that included 1,077 women with DCIS who had preoperative MRI and 2,175 who did not. MRI significantly increased the odds of having initial mastectomy [OR, 1.72 (P = 0.012); adjusted OR, 1.76, (P = 0.010)]. There were no significant differences in having positive margins after breast conserving surgery (BCS) between the MRI and no-MRI groups [OR, 0.80 (P = 0.059); adjusted OR, 1.10 (P = 0.716)], nor in having a reoperation for positive margins after BCS [OR 1.06 (P = 0.759); adjusted OR 1.04 (P = 0.844)]. Overall mastectomy rates did not significantly differ according to whether or not MRI was performed [OR 1.23, (P = 0.340); adjusted OR 0.97, (P = 0.881)].

Conclusions Preoperative MRI in patients with DCIS is not associated with improvement in surgical outcomes.