

Does pathological features affects the agreement between MRI and pathologic tumor size on invasive breast carcinomas?

BITENCOURT, AGV (AC Camargo Cancer Center, Brazil); FRANÇA, LKL (AC Camargo Cancer Center, Brazil); OSÓRIO, CABT (AC Camargo Cancer Center, Brazil); SOUZA, JA (AC Camargo Cancer Center, Brazil); GRAZIANO, L (AC Camargo Cancer Center, Brazil); GUATELLI, CS (AC Camargo Cancer Center, Brazil); POLI, MRB (AC Camargo Cancer Center, Brazil); MARQUES, EF (AC Camargo Cancer Center, Brazil).

BACKGROUND: As breast magnetic resonance imaging (MRI) is superior to mammography and ultrasound in the assessment of tumor size and this measurement is essential in treatment planning, the use of breast MRI is increasing among patients with newly diagnosed mammary cancers. However, some authors suggests that MRI may overestimate the size of the primary tumor raising mastectomy rates. **HYPOTHESIS:** Breast MRI is a good exam to predicting pathologic tumor size, but it is affected for some pathological features that can overestimate the measurement. **METHODS:** From august 2012 to august 2014 87 patients with invasive breast cancer who were submitted to preoperative breast MRI were retrospectively evaluated and clinicopathologic and imaging data reviewed. Concordance between MRI and pathology results was defined as a greater diameter difference of <10 mm. **RESULTS:** The average age of patients was 53 years (30-81 years). The most common histological type was invasive ductal carcinoma (57.5%) and immunophenotypic subtype, luminal B (51.2%). In 69% of cases there was agreement between MRI and pathology. MRI overestimated tumor size in 24.1%. After multivariate analysis, only the association with intraductal carcinoma was statistically correlated with overestimation. There was no association with the form of presentation, histology, molecular subtype, presence of multifocality, desmoplastic reaction and associated inflammatory infiltrate. In conclusion, there was good correlation between the measurement of tumor on MRI and pathology. At about 1/4 of the patients overestimated MRI lesion size, however, in most of these patients was associated with intraductal carcinoma.