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Titel des Beitrags: The contralateral synchronous breast carcinoma: a comparison of histology, localization, and magnetic resonance imaging characteristics with the primary index cancer.

Abstract: Women with unilateral breast carcinoma reveal an increased risk of suffering from malignancies in the contralateral breast. There is a controversy about the existence of bilateral phenotypic similarities. The aim of this investigation was to compare histologic findings, magnetic resonance imaging (MRI) parameters, and tumor localizations of synchronous bilateral carcinomas. MRI revealed in 42 of 875 women (4.8%) with primary index carcinomas a contralateral malignancy. Twenty-two of the 42 contralateral carcinomas could only be detected by MRI, not by clinical examination, X-ray mammography, or ultrasonography. In 875 patients, MRI therefore identified 22 (2.5%) otherwise occult contralateral cancers. To evaluate bilateral MRI similarities, multiple dynamic and morphologic parameters were evaluated. Of 42 bilateral cancer pairs, histologic tumor type was identical in 54.8% (correlation analysis, P< 0.05). Estrogen receptor status was simultaneously positive or negative in 86.2% (P< 0.01), progesterone receptor status in 79.3% (P< 0.05), expression of human epidermal growth factor receptor 2 in 76.2% (P< 0.05). In 75.8%, initial signal increase, and in 63.6%, postinitial curve types were bilaterally congruent on MRI (P< 0.05). Detected masses showed bilaterally similar T2-signal intensity in 81.8% (P<
0.001). Similar shape and margin of tumor masses and occurrence of non-mass-like enhancement were also frequently observed in both breasts (P< 0.05). The main tumor quadrant was the same in 61.9%, the main localization (retromamillar, central, or dorsal) in 66.7% (P< 0.01). Contralateral carcinomas frequently present similar histologic findings, tumor localizations and MRI characteristics reflecting analogies of tumor neoangiogenesis, histopathologic components, and infiltration in the surrounding stroma. Bilateral synchronous carcinomas may represent on each site distinct, but similar biologic entities, due to analogous influences of tumor developments.