



The frequency of HER2 amplification and the percentage of membrane staining in HER2 2 + invasive carcinomas of the breast

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Polónia and colleagues studied HER2 expression in invasive carcinoma of the breast using immunohistochemistry and in situ hybridisation (ISH) [1]. A total of 86 carcinomas had 2+ immunohistochemical staining in less than 50% of the invasive carcinoma, and none was HER2 amplified, whereas 17 of 52 with 2+ staining in at least 50% of the invasive carcinoma were HER2 amplified. The authors suggest that “cases below the cut-off could be excluded from reflex ISH analysis without any loss of identification of HER2-positive cases”.

Other studies have also found that the frequency of amplification was related to the percentage of complete membrane staining in HER2 2+ carcinomas [2, 3]. However, amplification was found in carcinomas with less than 50% 2+ staining. In a study including 413 2+ carcinomas, we found amplification in 8 of 149 (5%) with 10–19% membrane staining, 11 of 93 (12%) with 20–29% staining, 26 of 150 (17%) with 30–79% staining and 12 of 21 (57%) with 80–100% staining. Chibon et al. found amplification in 14 of 18 (78%) 2+ carcinomas with at least 60% circumferential staining and amplification in 22 of 88 (25%) carcinomas with less than 60% staining [3].

Raising the threshold for in situ hybridisation in 2+ carcinomas from 10 to 50% would miss some amplified carcinomas. There is not sufficient evidence to change this threshold in the current guidelines.

Author contribution AHSL wrote the first draft, and IOE revised it.

Declarations

Conflict of interests The authors declare no competing interests.

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