

## عنوان مقاله:

Evaluation of Immunohistochemistry-Equivocal (2+) HER2 Gene Status in Invasive Breast Cancer by Silver DNA in Situ Hybridization (SISH) and its Association with Clinicopathological Variables

## محل انتشار:

فصلنامه آسیب شناسی ایران، دوره 12، شماره 1 (سال: 1396)

تعداد صفحات اصل مقاله: 11

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## خلاصه مقاله:

**Background and Objective:** Determination of HER2 gene is crucial in breast carcinoma management and prognosis, as HER2 alterations are linked to a shorter disease-free period, overall survival and resistance to tamoxifen anti-estrogen therapy and other chemotherapy regimens, regardless of the nodal or hormone receptor status. This study aimed to estimate HER2 gene status of infiltrative mammary cancer cases with immunohistochemically equivocal (2+) score using Silver DNA in Situ Hybridization (SISH) technique and to investigate its association with clinicopathological variables. **Methods:** The study included 52 formalin-fixed paraffin embedded tissue blocks from female patients with invasive breast carcinoma with score of 2+ (equivocal) HER2 immunohistochemistry. All cases were studied by silver DNA in situ hybridization technique (SISH) for the determination of the amplified HER2 DNA. **Results:** The SISH technique showed that HER2 gene was not amplified in 33 cases out of 52 (63.5%); while the rest of 19 cases (36.5%) revealed amplified gene status. According to age, HER2 gene status reported non-significant difference in the age groups between cases with amplified and non-amplified gene status ( $P=0.173$ ). There was a significant negative association between positive Estrogen (ER) and Progesterone (PR) status and HER2 gene amplification ( $P= 0.002$  and  $0.017$ , respectively). **Conclusion:** More than half of breast carcinoma cases with equivocal HER2 immunoreactivity showed non-amplified gene status; this needs to be considered by oncologists in their management planning of breast cancer. Amplified HER2 gene is significantly associated with negative ER and PR status that affects patients' management protocols and future outcome of the disease.

## کلمات کلیدی:

Her2, SISH, Breast carcinoma, Immunohistochemistry, Equivocal

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