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## The impact of human epidermal growth factor receptor-2 status of invasive breast tumors on thermography findings.

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### Abstract

#### OBJECTIVE:

To analyze the impact of prognostic human epidermal growth factor receptor-2 (HER-2) in invasive breast cancers on the findings of thermography tests.

#### METHODS:

The study was carried out at the Department of Surgical Oncology and the Department of Pathology, University Clinical Hospital Center, Sisters of Mercy, Zagreb, Croatia, in collaboration with licensed infrared (IR) thermography experts. The study involved 75 female patients diagnosed with invasive breast cancer from May to July 2011. Thermography findings were compared between different immune-histochemical (IHC) findings (HER-2 status: positive or negative).

#### RESULTS:

Significantly higher temperatures were recorded in invasive cancer breasts than in healthy breasts. The cancer sites and the entire cancer breasts were significantly warmer ( $p$  less than 0.001) than the healthy breasts and opposite tumors mirror sites. Considering the HER-2 status, HER-2 positive invasive cancers were significantly warmer in comparison with the HER-2 negative cancers ( $p=0.035$ ).

#### CONCLUSION:

The trend of increased temperature in HER-2+ tumors was noted. The findings clearly indicate that HER-2+ status has a higher impact on the increased thermographic temperature findings.

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