

## CORRECTION

# Correction: Predictive value of multimodal ultrasound imaging and BCL-2 expression levels in the outcome of neoadjuvant chemotherapy for breast cancer

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The authors have identified inaccuracies in several references and related statements in the original article [1]. These issues are limited to the background, methods description, and discussion sections. The affected sentences and inappropriate references have been corrected as follows. These corrections do not affect the study design, methods, results, statistical analyses, or the overall conclusions of the paper.

**Specific corrections are as follows:**

Original sentence (Introduction section): “Precise assessment of NAC’s effectiveness is an important prerequisite for formulating subsequent treatment strategies. While pathological tissue biopsy is considered the “gold standard” for assessing the effectiveness of NAC, it is typically performed after surgery, which introduces a time delay [6].”

Revised text: “While pathological evaluation remains the reference standard for assessing the effectiveness of NAC in breast cancer, it is usually performed after surgery and therefore cannot provide real-time information during treatment [6].”

Original sentence (2.2.2 Examination methods section): “Parameters such as the upslope rate (K), peak intensity (PI), time to peak, and area under the curve (AUC) were recorded [10].”

Revised text: “Parameters such as the upslope rate (K), peak intensity (PI), time to peak, and area under the curve (AUC) were recorded according to time-intensity curve analysis used in CEUS-based assessment of NAC response in breast cancer [10].”

Original sentence (2.3 Immunohistochemical detection of BCL-2 Levels section): “Similarly, for Ki-67 expression assessment, a cutoff of  $\leq 20\%$  indicated a negative result, whereas  $>20\%$  was considered positive [12].”

Revised text: “Similarly, for Ki-67 expression assessment, a Ki-67 index of  $\leq 20\%$  was classified as low expression, whereas  $>20\%$  was classified as high expression [12].”

Original sentence (Discussion section): “Additionally, tumor cell necrosis can alleviate compression on peripheral blood vessels and reduce vascular resistance [22].”

Revised text: “Moreover, Doppler ultrasound can reflect

treatment-related changes in tumor vascularity, and changes in intratumoral blood flow signals after systemic chemotherapy may help evaluate treatment response in patients with locally advanced breast cancer [22].”

Original sentence (Discussion section): “NAC can induce changes in both the internal and surrounding tissues of breast cancer lesions due to the effects of the drugs, leading to alterations in tissue hardness [26].”

Revised text: “Elastography is an imaging technique used to measure tissue hardness. Previous studies have shown that higher tumor stiffness measured by shear-wave elastography is associated with poorer disease-free survival in patients with early-stage invasive breast cancer [25]. NAC can induce changes in tumor stiffness and related SWE parameters, which may help predict pathological response to treatment [26].”

Original sentence (Discussion section): “BCL-2 is a broadly defined anti-apoptotic gene, and its ability to inhibit cell apoptosis is enhanced when combined with Bag-1, consequently promoting tumor cell replication and metastasis [29].”

Revised text: “BCL-2 is an anti-apoptotic member of the BCL-2 family, which plays an important role in the regulation of apoptosis and cancer therapy-related cell survival [29].”

**Replaced references**

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[26] Gu J, Polley EC, Denis M, Carter JM, Pruthi S, Gregory AV, *et al.* Early assessment of shear wave elastography parameters foresees the response to neoadjuvant chemotherapy in patients with invasive breast cancer. *Breast Cancer Research*.

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[29] Qian S, Wei Z, Yang W, Huang J, Yang Y, Wang J. The role of BCL-2 family proteins in regulating apoptosis and cancer therapy. *Frontiers in Oncology*. 2022; 12: 985363.

## REFERENCES

- [1] Hou XQ, Gao JX, Liu YB, Han W, Li ZM, Song T. Predictive value of multimodal ultrasound imaging and BCL-2 expression levels in the outcome of neoadjuvant chemotherapy for breast cancer. *European Journal of Gynaecological Oncology*. 2024; 45: 16–23.