

## Letter to the Editor

### Late effects of cancer treatment in breast cancer survivors

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Dear Editor,

We have read the recent review on “late effects of cancer treatment in breast cancer survivors” with great interest. Agrawal *et al.* noted that cardiac toxicity, reproductive dysfunction, pneumonitis, arm lymphedema, neuropathy, and skin changes are examples of the wide range of complications associated with adjuvant treatment of breast cancer. Although many co-morbidities are discussed in the review by Agrawal; we would like to draw attention to a neglected complaint after breast cancer treatment, namely breast edema. Breast edema is a morbidity of breast cancer treatment which is often underdiagnosed in clinical practice. Currently, there is no consensus on the definition of breast edema and standardized assessment criteria. Common criteria found in the literature are an increased volume of the breast, peau d’orange, heaviness of the breast, redness of the skin, breast pain, skin thickening, hyperpigmented skin pores, and a positive pitting sign.<sup>[1,2]</sup> In some cases, the breast size can increase by more than one cup size. It is demonstrated that breast edema is a common morbidity in women who underwent breast-conserving surgery and radiotherapy. The breast edema incidence is very broad, namely 0-90.4%.<sup>[3,4]</sup> Several factors are responsible for this broad range such as no standard assessment method, no uniform definition of breast edema, different types of radiotherapy, and different follow-up times or measuring intervals. Breast edema can occur because of either the breast surgery or the radiation therapy. Both treatments can disturb the lymphatic circulation of the breast. In most patients breast edema develops during radiation therapy. Some studies, however, describe late-onset breast edema, although these cases are rare.<sup>[5]</sup> Late breast edema occurs about 20 months after breast

surgery and/or radiation therapy.<sup>[5]</sup> Some patients still suffer from this complaint years after their initial treatment and breast edema has a negative impact on the quality of life. Therefore, further research is warranted. The information on breast edema is additional to the late morbidities found by Agrawal *et al.*

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