

## Letter to Editor

# Breast reconstruction with autologous fat graft; does platelet-rich plasma affect patient's survival?

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We read with great interest the review entitled "*Does platelet-rich plasma enhance the survival of grafted fat? An update review*" by Jin R et al [1]. The purpose of this article was to review the available comparative evidence about PRP-assisted fat grafting. According to the Authors, the main limitation of fat grafting is unpredictable graft resorption. But, are there any limitations regarding PRP application?

Major disadvantages of the use of PRP have not been reported and only a few relative contraindications were formulated, such as active infection, platelet dysfunction or blood disorders, patients who cannot endure a blood draft, such as haemodynamically unstable patients and the presence of tumor in the wound bed or metastatic disease [2].

Cancer, however, is the first leading cause of breast soft tissue defects that lead to the need for reconstruction. Several studies on cancer growth, progression, recurrence and postoperative survival rate, focus on the tumor stroma, which represents a crucial parameter in tumor development. There is a complex interplay between endothelial, stromal, and tumor cells. Platelet-derived growth factors and receptors are pivotal in this interaction, and important targets in novel anti-cancer therapies [3].

It is a fact, that the release of these growth factors stimulates angiogenesis, induce tumor lymphangiogenesis, enhances nodal metastasis rate, regulates several cell biology processes, including proliferation, survival, differentiation, and tumorigenesis, and many others such as cell differentiation, migration, and apoptosis

[4, 5]. Patients with breast tumors positive for platelet derived growth factor (PDGF) have a significantly lower response rate to chemotherapy as well as significantly shorter duration of survival. In addition, patients with breast cancer who had elevated plasma levels of PDGF have a significantly shorter survival [6].

Therefore, we consider the use of the platelet-rich plasma not yet indicated in patients undergoing resection for cancer. Even after a tumor is excised and in order to achieve optimal survival, we must implement every single evidence-based guideline while, in the same time, exclude any maneuver, the indication of which has not yet been established.

The Authors concluded that PRP theoretically has the potential for enhancing the survival of grafted fat, but they should also consider that PRP theoretically has the potential for affecting patient's survival when applied on tumor excision sites. We strongly believe that the Authors should have mentioned this important point, and analyze it in their paper. The role of PRP in patients affected by outcomes of breast tumor resection, deserves further experimental investigation and large-scale prospective randomized clinical trials.

### Disclosure of conflict of interest

None declared.

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