Dear sir,

We have read the recent article by Dr. Zhu et al. [1] on investigating the effect of PADM on transplanted fat survival, which was a biomaterial clinically used for wound repair. In this study, the authors concluded that the addition of PADM has improved fat survival by reducing fat liquefaction and increasing macrophage infiltration, ECM regeneration, and revascularization. This experiment is meant for evaluating the value of the addition of PADM in improving the fat survival rate. Here, we provide some thoughts on this study.

Firstly, Dr. Zhu et al. stated that PADM addition has promoted angiogenesis by activating macrophages. Angiogenesis refers to the process in which endothelial cells proliferate and migrate under the action of a series of factors related to angiogenesis, resulting in the rearrangement of new endothelial cells to form a vascular network [2]. However, there were no related experiments on evaluating the relationship between macrophage activation and angiogenesis in Dr. Zhu’s studies. Macrophages have strong plasticity and are divided into two types of polarized macrophages with different phenotypic characteristics and biological functions, namely classical activated M1-type and replaceable activated M2-type macrophages [3, 4]. M2-type macrophages can secrete a variety of pro-angiogenic factors (such as VEGF, TGF-β, PDGF, ANG, and bFGF) to promote angiogenesis [5, 6]. Therefore, VEGF, CD31, and other related factors should be further detected to clarify the role of M2-type phagocytes in promoting angiogenesis.

Secondly, methods for assessing CD34-positive staining areas Fig. 3A in were not described, and the authors did not explain this issue in the methods, results, and discussion sections, which was very important for evaluating angiogenesis in Dr. Zhu’s studies. We would be very grateful if the authors could provide more detailed information in this regard. Furthermore, the proportion of the area with significant regeneration of microvascular was also high in the first image in the control group, and even higher than the PADM group, so we were skeptical about the actual effects of PADM on transplanted fat survival.

Additionally, the proportion of PADM in the mixture with fat was not discussed in this research. We are looking forward to learning more detailed information on the selection of the mixture proportion. Dr. Zhu et al also described that MCP-1 and TNF-α were important indicators to characterize the inflammatory state of transplanted adipose tissue with PADM. However, TNF-α plays different roles in different periods, including pro-inflammatory and anti-inflammatory effects, so it is not rigorous to treat this factor as a pro-inflammatory factor only [7, 8].

Finally, Dr. Zhu et al. pointed out that PADM was a good biomaterial that could improve fat survival rate in fat grafting. This study also showed the beneficial effects of

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adding PADM on inflammatory cell infiltration and tissue regeneration. We are also interested in further studies on the clinical effects of the PADM in fat grafting.

Declaration

Conflict of interest The authors declare that they have no conflicts of interest to disclose

Human and Animal Rights This article does not contain any studies with human participants or animals performed by any of the authors

Informed Consent For this type of study, informed consent is not required

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