

Abstract Submitted
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Effect of Neoangiogenesis Using Micro-spot Atmospheric Pressure Plasma CHIHIRO TSUTSUI, Nano Carbon Bio Device Research Center, Tokyo City University, TOSHIFUMI KOMACHI, TAKUMI KISHIMOTO, Department of Biomedical Engineering, Tokyo City University, TAKAMICHI HIRATA, AKIRA MORI, Department of Biomedical Engineering and Nano Carbon Bio Device Research Center, Tokyo City University — Using an in vitro model, we investigated the effect of the atmospheric pressure plasma irradiation to NIH3T3 and porcine aortic endothelial cells. In the plasma exposure experiment using cell proliferation was inhibited in proportion to processing time. However, it was found that this inhibitory effect was suppressed by plasma irradiation and cells are rather on an increase trend. And, in comparison with the cell growth curve for the He gas flow group, the curve for the plasma irradiation group was shifted to the left. We investigated expression analysis in the subsequent experiment with focus on factors related to angiogenesis, it was found that the transient overexpression of VEGF are observed in 24 h from the plasma irradiation. This proliferative effect is likely related to several growth factor releases due to plasma-induced reactive ion/radical interaction.

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