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**The influence of the air plasma jet on early adherent events of L929 fibroblasts on cell culture polystyrene plate** JUNG-HWAN LEE, JAE-SUNG KWON, JI-YEON OM, Department and Research Institute of Dental Biomaterials and Bioengineering, College of Dentistry, Yonsei University, Republic of Korea, YONG-HEE KIM, EUN-HA CHOI, Plasma Bioscience Research Center, Kwangwoon University, Republic of Korea, KWANG-MAHN KIM, KYOUNG-NAM KIM, Department and Research Institute of Dental Biomaterials and Bioengineering, College of Dentistry, Yonsei University, Republic of Korea — Recently, atmospheric pressure plasma was applied to biological field. The aim of this study was to identify whether the air plasma jet increases fibroblast early attachment under moving motion on the cell culture polystyrene plate. Polystyrene plate was treated with plasma jet using compressed air. After 2 minutes of treatment, L929 was seeded on polystyrene plate as well as on untreated plate. Cells were allowed to attach for 4 hours under 70 RPM. FE-SEM, confocal microscopy and RT-PCR were used to evaluate characters of cells. The results suggested that plasma treatment on the polystyrene plate altered surface energy without change of roughness. In occasion of treatment plate, attached L292 were significantly found but not found on untreated surface. Also, despite the small area of treated center by the flame of the plasma jet, cells were also attached on round surface of the area covered by the flame, which suggests that the effect was not only due to the jet flame but perhaps due to the jet interacting with surrounding atmosphere. In the light of this study, the air plasma jet could be useful for early attachment of L292 on the polystyrene plate under moving motion and can be applied to biomaterials.

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