

Platelet Rich Plasma stimulates human hair growth in vitro

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Several factors are involved in hair growth and cycling (Buffoli et al., 2013). Platelet concentrates have a new important role in regenerative medicine and thus in dermatology, oral, plastic and orthopaedic surgery and hair growth (Franco et al., 2012). In this study we evaluated in vitro the effects of Platelet-Rich Plasma (PRP), an autologous platelet preparation, on hair growth. In particular, we compared four different culture media (Philpott et al., 1990): 1-William's E culture medium with supplemented factors; 2-William's E culture medium with supplemented factors and Platelet Rich Plasma; 3-William's E culture medium without supplemented factors; 4-William's E culture medium without supplemented factors but with PRP. Hair shaft elongation was measured at 0, 24, 48, 72 and 96 hours: digitally fixed images of slices were analyzed using an image analyzer considering as measurable portion the shaft part between the bulb upper border and the top of the hair end. The values obtained were used to calculate the percentage of elongation for each time. Growth in hair cultured with William's E medium with supplemented factors and PRP resulted higher with respect to the other media. Moreover, these results suggest that PRP stimulates human hair growth in vitro.

References

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Keywords

Platelet, growth factors, human hair.