【大学院特別講義】

新潟大学皮膚科特別セミナー

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Allogeneic Hair Transplantation: Current Status

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Alopecia patients with severe hair loss cannot benefit from autologous hair transplantation. However, it would be possible to utilize allogeneic hair follicles as the donor source with the induction of antigen-specific T cell tolerance. Dendritic cells (DCs) are key targets for immunity and tolerance induction; they present donor antigens to recipient T cells by donor- and recipient-derived pathways. Here, we investigated the tolerogenic potential of donor-derived DC depletion through *in vivo* and *ex vivo* UVB preirradiation (UV) combined with injection of anti-CD154 Ab into recipients in an MHC-mismatched hair follicle (HF) allograft model in humanized mice. This immunomodulatory strategy targeting the donor tissue exhibited novel biological relevance for clinical allogeneic transplantation without generalized immunosuppression.

1. Kim JY, **Kwon O**, et al. Priming mobilization of hair follicle stem cells triggers permanent loss of regeneration after alkylating chemotherapy. ***Nat Commun*** 2019:10;3694
2. Gay D, **Kwon O**, et al. Fgf9 from dermal T cells induces hair follicle neogenesis after wounding. ***Nat Med*** 2013:19;916-23