第64回　免疫学セミナーのお知らせ
Tsukuba Immunology Seminar

筑波大学医学セミナー

Intravital imaging of sterile inflammation

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平成27年12月7日（月）午後17:30-19:00
健康医科学イノベーション棟8階講堂

講演要旨

Our immune system is designed to protect us from harmful agents. It must initiate a rapid potent inflammatory response to eliminate invading pathogens. Although similar to the eradication of pathogens, the inflammatory response can also occur following a sterile injury and is required for tissue repair and wound healing. In order to understand how innate immune cells such as neutrophils and monocytes response to sterile inflammation and their contribution to tissue repair, we have developed a novel model that has allowed us to visualize right inside a tiny sterile injury where approximately 200 cells in liver are killed. Using dual laser spinning disk intravital microscopy and mice with fluorescent reporters, we were able to track the dynamic behaviors of neutrophils and monocytes that enter into the inflamed lesion. In this seminar, I will provide the data to support the hypothesis that neutrophils can be cleared from an inflammation site through reverse transmigration and re-enter into the blood flow. In addition, I will also discuss how monocytes and macrophages are recruited to sterile injury through different pathways and their roles in promoting tissue repair.

Reference

1. McDonald B, Pittman K, Menezes GB, Hirota SA, Slaba I, Waterhouse CC, Beck PL, Muruve DA, Kubes P. **Intravascular danger signals guide neutrophils to sites of sterile inflammation** Science, 330 (2010) pp. 362-6

2. Dal-Secco D, Wang J, Zeng Z, Kolaczkowska E, Wong CH, Petri B, Ransohoff RM, Charo IF, Jenne CN, Kubes P. **A dynamic spectrum of monocytes arising from the in situ reprogramming of CCR2+ monocytes at a site of sterile injury** J Exp Med, 212 (2015) pp.447-56

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