May 8th, 12:30 PM - 1:30 PM

IL-1 Generated Subsequent to Radiation-induced Tissue Injury Contributes to the Pathogenesis of Radiodermatitis

Matthew Janko
University of Massachusetts Medical School

Fernando Ontiveros
University of Massachusetts Medical School

Thomas J. Fitzgerald
University of Massachusetts Medical School

See next page for additional authors

Follow this and additional works at: https://escholarship.umassmed.edu/cts_retreat

Part of the Dermatology Commons, Pathology Commons, Radiology Commons, Skin and Connective Tissue Diseases Commons, and the Translational Medical Research Commons

Janko, Matthew; Ontiveros, Fernando; Fitzgerald, Thomas J.; Deng, April; DeCicco, Maria; and Rock, Kenneth L., "IL-1 Generated Subsequent to Radiation-induced Tissue Injury Contributes to the Pathogenesis of Radiodermatitis" (2013). UMass Center for Clinical and Translational Science Research Retreat. 46.
https://escholarship.umassmed.edu/cts_retreat/2013/posters/46

This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in UMass Center for Clinical and Translational Science Research Retreat by an authorized administrator of eScholarship@UMMS. For more information, please contact Lisa.Palmer@umassmed.edu.
Presenter Information
Matthew Janko, Fernando Ontiveros, Thomas J. Fitzgerald, April Deng, Maria DeCicco, and Kenneth L. Rock

Creative Commons License
This work is licensed under a Creative Commons Attribution-Noncommercial-Share Alike 3.0 License.

This poster abstract is available at eScholarship@UMMS: https://escholarship.umassmed.edu/cts_retreat/2013/posters/46
Title: IL-1 Generated Subsequent to Radiation-induced Tissue Injury Contributes to the Pathogenesis of Radiodermatitis.

Matthew Janko¹, Fernando Ontiveros PhD¹, T. J. Fitzgerald MD², April Deng MD¹, Maria DeCicco¹ and Kenneth L. Rock MD¹
Departments of Pathology¹ and Radiation Oncology²
University of Massachusetts, Worcester, Massachusetts 01655
Contact: matthew.janko@umassmed.edu

Radiation injury in the skin causes radiodermatitis, a condition in which the skin becomes inflamed and the epidermis can break down. This condition causes significant morbidity and if severe it can be an independent factor that contributes to radiation mortality. Radiodermatitis is seen in some settings of radiotherapy for cancer and is also of concern as a complication post-radiation exposure from accidents or weapons, such as a “dirty bomb”. The pathogenesis of this condition is incompletely understood. Here we have developed a murine model of radiodermatitis wherein the skin is selectively injured by irradiation with high-energy electrons. Using this model we showed that the interleukin-1 (IL-1) pathway plays a significant role in the development of radiodermatitis. Mice that lack either IL-1 or the IL-1 receptor developed less inflammation and less severe pathological changes in their skin, especially at later time-points. These findings suggest that IL-1 pathway may be a potential therapeutic target for reducing the severity of radiodermatitis.