Department of Internal Medicine

34th Annual Yash P. Kataria Research Day

Sample Abstract Form

DEADLINE: Tuesday, January 28, 2020

Email abstract to Cindy Kukoly, kukolyc@ecu.edu

PLEASE NOTE

Your abstract must fit in the text box to the right using Arial font, 9 point type. Please see the submission guidelines for more information on properly submitting your abstract.

You may not change the size of the text box, alter the format, adjust the font, type size, etc.

Reminder- For trainees, please include mentor information below. Also be sure to cc mentor in email at time of abstract submission.

Failure to follow these instructions may delay acceptance or disqualify your abstract.

Notification of Acceptance
February 4th

Formatting questions?
Call Cindy Kukoly
at 252-744-2962
or
Cathy Munson
at 252-744-5258

RITUXIMAB DEPLETES B-LYMPHOCYTES IN PULMONARY ALVEOLAR PROTEINOSIS

H H Dalrymple, A Malur, G Gagnon, I Marshall, S Arce, BP Barna, MS Kavuru, MJ Thomassen

Background: Pulmonary Alveolar Proteinosis (PAP) is an autoimmune disorder characterized by autoantibodies to GM-CSF. Rituximab, a chimeric murine-human monoclonal antibody, directed against the B lymphocyte specific antigen CD20, has shown promise in a number of autoimmune disorders. We hypothesized that Rituximab would deplete B-lymphocytes in PAP and thus improve clinical condition.

Methods: As part of an open label proof-of-concept Phase II clinical trial of 10 patients, to date, 7 PAP patients received two infusions (1mg/ml) of Rituximab, fifteen days apart. Peripheral blood samples were collected from patients both pre- and post-Rituximab infusion. Lymphocyte activation was determined by measurement of ATP using CD4 magnetic bead assays (Cylex). Peripheral blood mononuclear cells (PBMC) were also isolated from both PAP patients and healthy controls and analyzed by flow cytometry. Oxygenation of PAP patients was measured by PaO_2.

Results: B-lymphocytes decreased by 15±2 % (n=7) by fifteen days post therapy and persisted for 6 months. T-lymphocyte activity increased by 55% following administration of Rituximab, persisting three months post therapy (n=5), as compared to <1% increase in activity of T-lymphocytes from healthy controls (n=4). Oxygenation was also determined to be improved by 14±5 mmHg in 4/5 patients.

Conclusions: Administration of Rituximab to PAP patients effectively depleted B- lymphocytes and enhanced T-lymphocyte activity, suggesting that in PAP, Rituximab affects both humoral and cellular immune systems. Rituximab also improved clinical symptoms, indicating that therapy directed at the autoimmune pathogenesis of PAP represents an effective and beneficial approach.

.

Presenting Author Information (underlined author above)		*Presentation Preference*
Name & Degree:	Heidi Dalrymple, BS	☒ Oral Presentation Only
Department/Division:	Internal Medicine/Pulmonary Division	☐ Poster Presentation Only
Email Address:	hvd0215@ecu.edu	☐ No Preference
Phone/ Pager:	744-1169	

Author Designation: ☐ Fellow ☐ Resident ☐ Staff ☐ Faculty
☒ Student(level): PhD Candidate ☐ Other:

Mentor: Dr MJ Thomassen Email: thomassenm@ecu.edu