

WEBINAR 5 HIGHLIGHTS

DETECTION OF DEFECTIVE VIRAL GENOMES AS A POTENTIAL TOOL TO PREDICT RESPIRATORY SYNCYTIAL VIRUS CLINICAL OUTCOME

SUMMARY

On May 27th, 2021 the 5th ReSViNET webinar was co-hosted by Dr. Ursula Buchholz (RNA Viruses Section, NIAID - National Institute of Allergy & Infectious Diseases -Bethesda, Maryland, USA) with guest speaker, Prof. Carolina B. Lopez (Department of Molecular Microbiology, Washington University, School of Medicine - St. Louis, USA).

This webinar focused on viral genomes unable to replicate in the absence of a helper standard virus are generated during RSV infection. This replication defective viral genomes (DVGs) determine the infection course and clinical outcome.

INTRODUCTION

- DVGs are generated during virus replication;
- DVGs are highly immunostimulatory;
- It was unknown whether DVGs could impact the clinical outcome of RSV infection.

AIMS

To determine if detection of DVGs that are generated in patients associate with distinct infection outcomes.

KEY FINDINGS

- DVGs accumulate at different rates in infected patients;
- Fast accumulation of DVGs associates with lower viral load & reduced clinical disease compared with delayed defective viral genome accumulation;
- Detection of DVGs in hospitalized patients associates with worst clinical outcome.

DISCUSSION

Detection of DVGs associates with enhanced inflammatory response in the lung regardless of the timing of their detection.

We predict that early DVGs induce an effective inflammatory response while delayed DVG generation leads to a pathogenic inflammatory response.

TAKE HOME MESSAGE

Detection of DVGs in RSV positive hospitalized patients may serve as a tool to predict more severe clinical disease.

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NEXT WEBINAR

 **NEXT WEBINAR: JUNE 30, 2021**

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