

"Hepatitis event" i Dansk Virologisk Selskab

Tirsdag d. 13. maj 2008
kl. 13:30-16:00

Statens Serum Institut
Artillerivej 5, 2300 København S
Foredragssalen bygn. 43



Videnskabeligt selskab
for veterinær- og
humanvirologer
oprettet 1991

Program

- 13:30** **General forsamling**
-se særskilt dagsorden.
- 14:00** **In vitro and in vivo studies of the molecular
virology of HCV: Prospects for control**
Dr. Jens Bukh
Dept. of Infectious Diseases and Clinical
Research Centre, Copenhagen University
Hospital, Hvidovre and Faculty of Health
Sciences, University of Copenhagen
- 14:45-15:00 Coffee break*
- 15:00** **The immune response to HBV: Control
versus pathogenicity**
Dr. Mala K. Maini
Division of Infection and Immunity,
University College London, UK.
- 15:45* *Forfriskninger*
- Notes:* **Lectures will be in English.**
Program organized by Dr. Allan Randrup Thomsen

Formand:
Overlæge, dr.med.
Anders Fomsgaard
Godthåbsvej 87
2000 F

E-mail:
AFO@ssi.dk

Internet:
www.virologi.dk

Danish Society for
Virology

President:
Anders Fomsgaard,
MD, DSc(med.)

Godthåbsvej 87
DK-2000 F

AFO@ssi.dk
www.virologi.dk

Vel mødt!

Dansk Virologisk Selskab

”Hepatitis event”, Dansk Virologisk Selskab

Tuesday 13 May 2008, 13:30-16:00.



**Statens Serum Institut, Artillerivej 5, 2300 Copenhagen S,
Lecture Hall, bldn. 43.**

Abstracts:

IN VITRO AND IN VIVO STUDIES OF THE MOLECULAR VIROLOGY OF HCV: PROSPECTS FOR CONTROL

JENS BUKH

Copenhagen Hepatitis C Program (CO-HEP), Dept. of Infectious Diseases and Clinical Research Centre, Copenhagen University Hospital, Hvidovre and Dept. of International Health, Immunology, and Microbiology, Faculty of Health Sciences, University of Copenhagen; Laboratory of Infectious Diseases, NIAID, NIH, Bethesda, Maryland, USA.

At least 180 million people are infected with hepatitis C virus (HCV) worldwide, and have increased risk of developing liver cirrhosis and liver cancer. Thus, HCV is the most common cause of end-stage liver disease and liver transplantation in developed countries. Combination therapy with pegylated interferon and ribavirin cures only ~50% of patients, and many patients are not treated due to side effects and contraindications. There is no HCV vaccine. One major limitation for advance in HCV research has been that only a single HCV genome (JFH1) was found to produce viruses in cell culture, and this genome required adaptation for efficient growth. However, recently JFH1- based cell culture systems which express the structural proteins (C, E1 and E2), p7 and NS2 of the different HCV genotypes have been developed, which permit genotype specific functional studies and analysis of cell entry, including studies of neutralizing antibodies. The only true in vivo model for studies of HCV pathogenesis is the chimpanzee; this model has been critical for defining functional genomes of HCV. Furthermore, experimental studies in chimpanzees have helped define immune responses associated with acute and chronic HCV infection, and with protective immunity; the chimpanzee has been the only model that could be used to studying active and passive immuno-prophylaxis. However, it has recently been shown that the uPa-SCID mice engrafted with human hepatocytes could be used for studies of the protective immunity of neutralizing antibodies. The availability of more readily available in vitro and in vivo systems for HCV should advance studies that might contribute to the ultimate goal of developing a vaccine and better treatment options for this important human pathogen.

THE IMMUNE RESPONSE TO HBV: CONTROL VERSUS PATHOGENICITY

MALA K MAINI

DIVISION OF INFECTION AND IMMUNITY, UCL, UK.

The hepatotropic hepatitis B virus (HBV) is non-cytopathic; liver disease resulting from this infection is therefore thought to be immune-mediated. In order to develop immunotherapeutic strategies for improving the treatment of HBV, there is a pressing need to dissect out the immune components contributing to viral control versus disease pathogenesis. Defects in many aspects of the coordinated innate and adaptive immune response have been described in patients failing to control HBV infection, but one of the most profound and critical is depletion of the virus-specific CD8 T cell response. Using gene expression profiling, we have recently identified that Bim-mediated apoptosis partially accounts for the failure of HBV-specific CD8 T cells to persist in the face of high antigen load (Lopes et al, JCI 2008, in press). Additional tolerising influences of the liver microenvironment and of increased levels of IL-10 in this infection will be discussed (Das et al, submitted).

Data from humans and HBV transgenic mice have pointed to the non-antigen-specific lymphocytes infiltrating the liver in the presence of uncontrolled HBV replication as a major contributor to the ensuing damage. We have identified a pathway whereby NK cells, which account for 30-40% of intrahepatic lymphocytes, can mediate hepatocyte death and have shown that this pathway can be stimulated by cytokines induced during flares of HBV-related liver disease (Dunn et al, JEM 2007). Recent work investigating what drives the influx of these pathogenic NK cells to the HBV-infected liver will be presented.
