

Conference Report

Highlight on the 6th Annual Meeting of the Italian Society of Virology, a Joint Meeting with Virus Group of the Society for General Microbiology (UK)

In September 2006, the 6th National Congress of Italian Society of Virology (ISV) was held in the beautiful historic city of Orvieto (TR), Italy. This year the meeting was jointly held with the Virus Group of the Society for General Microbiology (UK). The conference aim was to promote scientific collaboration between Italian and UK virologists in different areas of virology and related disciplines. More than 200 scientists attended the meeting. Invited and selected lecturers covering the following topics: virus entry; regulation of gene expression and pathogenesis; emerging and re-emerging viral infections of humans and animals; new antiviral therapy, viral immunology and vaccines; genetic cancer therapy; pre-emptive and adoptive transfer in bone marrow transplant; and innovative diagnostics. The final programme and the abstract book can be found at the website www.siv-virologia.it or www.infectedagentscancer.com.

M. Brenner (Texas, USA) opened the meeting with a discussion on the adoptive immunotherapeutic multi-virus-specific cytotoxic T lymphocytes (CTLs) strategy for the prevention of CMV, EBV and adenovirus infections in the immunocompromised host. An innovative approach for adoptive immunotherapy of CMV-associated diseases was proposed by P. Moss (Birmingham, UK). In this case, CMV-specific CD8+ T cells were purified from the blood of stem-cell transplant (SCT) donors and infused directly without a period of *ex vivo* culture. P.D. Griffith (London, UK) highlighted CMV pathogenesis aspects to provide insights into efficacy of antiviral treatment and vaccines. Through the use of modern molecular approaches it could be demonstrated that, *in vivo*, CMV is an aggressive virus able to attack multiple systems in the body. This is in accordance with previously-recognised risk factors for CMV disease in allograft recipients and may form the basis of the pre-emptive therapy. G. Gerna (Pavia, Italy) described some studies addressed to optimise the pre-emptive therapy in solid organ and haematopoietic SCT

recipients. Gerna showed that in solid organ transplantation DNAemia cutoff of 300'000 copies/ml blood appears suitable for starting anti-CMV pre-emptive therapy while in pediatric haematopoietic SCT a DNAemia cutoff of 10'000 copies/ml blood was useful.

In *the Pioneer in Virology Lecture* J. Skehel (London, UK) overviewed the structural bases of influenza haemoagglutinins (HAs) in virus entry. He described the molecular interaction between haemoagglutinins and cell receptors in human and avian species and the HA conformational changes in the fusion event of viral entry. The mechanism of viral entry of a DNA virus was described by G. Campadelli-Fiume (Bologna, Italy). HSV was proposed as a prototype virus with a multipartite fusion system and she reported her studies on viral glycoproteins to elucidate viral entry and fusion. In particular, she proposed a model where gD-receptor interaction and recruitment of gB, gH and gL glycoproteins are fundamental for the virus entry. The host restriction of avian influenza (AI) viruses was the topic discussed by J. McCauley (Compton, UK). He proposed a new approach for examining the host range in culture and suggested that interferon induction and response contribute to restrict the host range of AI viruses. I. Capua (Padua, Italy) highlighted the control of AI in the animal reservoir as a prerequisite to manage the pandemic threat. D.J. McGeoch (Glasgow, UK) described the complexities in the evolutionary histories of human herpes viruses reporting recent investigations on human herpes virus evolution by genomic sequencing of multiple isolates. These viruses evolve in different fashions: uniformly across the genome or through a set of alleles with high variable nucleotide sequences. G. Martelli (Bari, Italy) overviewed the RNA interference (RNAi) in plant virus-host interactions showing the ability of viruses to act as suppressors of RNAi. G.L. Smith (London, UK) described new vaccinia virus proteins that inhibit apoptosis. This information increases the understanding of virus patho-



John Skehel (left) and Giorgio Palù (right)

genesis and biology. The endogenous retroviruses and their involvement in human pathology were discussed by A. Dolei (Sassari, Italy). She showed data supporting endogenous retroviruses to be co-factors in several diseases and to have a physiological role in early pregnancy. N. Almond (Potters Bar, UK) discussed a study on the protection conferred by a live attenuated SIV as a model for the development of a vaccine against AIDS. He also reported on a non-immune response mechanism that contributes to the protection conferred by the SIV. S. Abrignani (Milan, Italy), described an *in vitro* model of CD81-mediated activation of B cells that may recapitulate the *in vivo* effects of HCV binding to B cell CD81. Polyclonal proliferation on naïve B lymphocytes is a key factor for the development of HCV-associated B lymphocyte disorders. A. Antinori (Rome, Italy) reviewed the emerging issues of anti-retroviral therapy, describing all steps from initiation to resistance development, comparing different antiretroviral therapy strategies and proposing the introduction of new drugs. H. Thomas (London, UK) described the general characteristics of HCV, the target cells of infection and the host responses. He concluded by summarising current treatment modalities and outlining the goals of future therapeutic interventions.

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