

Conclusions: In non-endemic areas the association of clinical relevant leishmaniasis with immunosuppression is common. There is a shift in risk factors from HIV to other conditions with cellular immunodeficiency.

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Equal Amounts of Intracellular and Virion-enclosed *Hepatitis C Virus* RNA in Peripheral Blood Mononuclear Cells

P. Kaiser, B. Niederöst, B. Joos, R. Weber, H.F. Günthard*, & M. Fischer. *Division of Infectious Diseases, University Hospital Zürich, Rämistrasse 100, 8091 Zürich, Switzerland*

Background: Hepatitis C virus (HCV) replicating in peripheral blood mononuclear cells (PBMC) may represent an extrahepatic viral reservoir. Quantitation of HCV RNA with regard to its local distribution and longitudinal course may help to assess the largely unexplored viral dynamics in PBMC.

Methods: Differential extraction of cell-associated HCV RNA enclosed in virions was performed in parallel with extraction of total cellular HCV RNA. Quantification of HCV RNA of both polarities was achieved by highly strand-specific real-time PCR assays. Plasma and PBMC of 30 patients were sampled for cross-sectional and longitudinal analyses for up to 40 months.

Results: HCV RNA was detected only in PBMC of viremic patients. PBMC-associated HCV RNA was found at relatively stable quantities over time, incorporated in viral particles to a degree of 40% (96% CI: 34.5–46.2), and showed limited interdependency with plasma HCV RNA. Ratios of PBMC-to plasma viral loads showed significant patient specificity.

Conclusions: Our findings of a substantial contribution of intracellular HCV RNA to total PBMC-associated HCV RNA support a concept of low-level replication in this compartment. We did not find evidence for HCV persistence in PBMC beyond clearance of plasma viremia. Nevertheless levels of PBMC-associated and plasma HCV RNA appear to be regulated differentially.

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Comparison of the Management of the *Norovirus* Outbreak During Winter 2004/05 in 12 Large Swiss Hospitals

I. Uçkay*, R. Fretz, D. Pittet, H. Sax. *Service Prévention et Contrôle de l'Infection Hôpitaux Universitaires de Genève, Switzerland*

Background: A total of 69 *Norovirus* outbreaks have been reported in winter 04/05. Although recommendations for the community have been published in 2005 by the Federal Office of Public Health, Switzerland has no national guidelines or detailed recommendations for management of nosocomial *Norovirus* outbreaks.

Objective: To investigate if the management of this *Norovirus* outbreak differed substantially between 13 randomly selected large Swiss hospitals.

Methods: Retrospective analysis of a 17-item questionnaire sent to all 5 university and 8 large cantonal hospitals.

Results: 12 answered the questionnaire. A maximum of 3–5 PCR-confirmed cases was sufficient for microbiological evidence of *Norovirus* in 11 of 12 hospitals. All hospitals had a surveillance system but only 3 differentiated between community-acquired and nosocomial cases. Hand hygiene was substantially promoted in 11 hospitals and 10 changed to a formulation with a higher concentration of alcohol. All hospitals pursued an internal information policy and 3 informed the community. Infected patients were "contact" isolated up to 48 h after the last symptoms in all hospitals and, when necessary, cohorting was applied in 6. Droplet precautions were additionally implemented in all hospitals in case of vomiting. All hospitals required that staff wear gowns and gloves in contact with patients and a mask in case of vomiting. In 1 hospital, standard masks were replaced by FFP2 masks and in 7, a mask was always worn when in contact with affected patients. Infected staff was asked to take sick leave, but in 4 hospitals a substantial number continued to work (often with a mask) due to lack of staff. In 2 hospitals, sick leave was less than 48 h after the last symptoms. In 7 hospitals, dedicated toilets for infected patients were attributed and sanitary facilities as well as surfaces and floors were disinfected several times daily by nursing aides and housekeeping staff. In 8 hospitals, the cleaning and disinfecting agents for surfaces and floors were changed. A separation of toilets could not be achieved in at least 1 hospital or was not necessary in 4 hospitals due to isolation. **Conclusion:** Despite a lack of national guidelines and a possible selection bias, the management

of nosocomial *Norovirus* outbreaks does not differ substantially among large Swiss hospitals. Main differences concern the change to a handrub formulation with a higher concentration of alcohol and the indication for a mask in the absence of vomiting.

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***Chikungunya-Virus* in a Returning Traveler**

S. Tschudin¹*, B. Khanlari², S. Schaub², G. Laifer^{1,3}, U. Fluckiger¹, S. Bassetti¹. ¹*Division of Infectious Diseases & Hospital Epidemiology, University Hospital Basel, Switzerland*, ²*Department of Internal Medicine, University Hospital Basel, Switzerland*, ³*Emergency Department, University Hospital Basel, Switzerland*

Background: *Chikungunya-virus* (CV) causes an acute viral infection characterized by severe arthralgia and fever. It is an alphavirus and belongs to the family of *Togaviridae*. *Aedes aegypti* and in the recent epidemics *Aedes albopictus* are the vectors for CV and are also known for transmission of Dengue. Recent large epidemics of Chikungunya-fever are ongoing in La Réunion, Mauritius, Mayotte and the Seychelles.

Report: We report the case of a 72-y-old woman, who was admitted to our hospital with fever, joint-aches and swelling of her fingers and ankles. She had returned from a 15-day trip to Mauritius two days before. Symptoms began during her return flight. She reported to have suffered from several mosquito bites during her holiday. Physical examination showed a discrete exanthema of the stomach and the back, conjunctivitis, as well as swollen finger-joints and ankles. The temperature was 39.5°C. The laboratory tests showed 8.2×10^9 /l leucocytes/uL with 73% bands, slight thrombocytopenia (145×10^9 /l) as well as elevated CRP (122 mg/l). Urine analysis was normal. Blood cultures and urine bacteriology were negative. Empiric therapy with ceftriaxone and tetracycline as well as symptomatic treatment with paracetamol and ibuprofen were initiated. One day after admission the patient developed leukopenia (1.5×10^9 /l), neutropenia (0.8×10^9 /l) and thrombocytes further decreased (101×10^9 /l). The next day the white blood cell count and thrombocytes started recovering again. As serological examinations for rickettsiosis were negative and blood cultures remained negative for three days the antibiotics were stopped. Four days after admission the fever had resolved, while the pain in the joints still persisted. Alpha-virus-PCR and IgM-antibodies against CV were positive from serum taken at admission, while IgG were negative.

Conclusion: CV infection presents with the cardinal symptoms of fever, arthritis and severe arthralgias. *Chikungunya-* and *Dengue-virus* occur in similar regions and are even transmitted by the same vector. Arthritis and severe arthralgias are important symptoms to discriminate between these two viral diseases in a febrile patient returning from endemic regions.

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Rhabdochlamydia crassificans*, sp. nov., comb. nov., an Intracellular Bacterial Pathogen of the Cockroach *Blatta orientalis

D. Corsaro, V. Thomas, G. Goy, D. Venditti, R. Radek, G. Greub*. *Center for research on intracellular bacteria, Institute of Microbiology, Lausanne, Switzerland*

Background: The genus *Rickettsiella* comprises various intracellular bacterial pathogens of arthropods, exhibiting a chlamydia-like developmental cycle. Species may be divided into two main groups, the *R. popilliae*–*R. grylli* group and the *R. chironomi* group. Previous phylogenetic studies based on the 16S ribosomal RNA encoding gene showed that two *Rickettsiella* species, one from each group, belong in reality to two distantly related lineages, the gamma-Proteobacteria (*R. grylli*) and the Chlamydiales (*Rhabdochlamydia porcellionis*, a pathogen of terrestrial isopods).

Objectives & Methods: In the present work, the 16S rDNA sequence of another *Rickettsiella*-like species, causing abdominal swelling to its cockroach host *Blatta orientalis*, was determined and phylogenetic analysis performed.

Results: Identical 16S rDNA sequences of 1495 nucleotides were obtained from fat body and ovary tissues of both healthy and diseased cockroach individuals. The sequence shared only 73% of similarity with *R. grylli*, but 82–87% with most Chlamydiales, and even 96.3% with *Rhabdochlamydia porcellionis*.

Phylogenetic analyses confirmed the affiliation of the cockroach pathogen within the order Chlamydiales, and based on ultrastructural characteristics and genetic analyses, we propose its inclusion in the genus *Rhabdochlamydia* as a new species, *Rhabdochlamydia crassificans*.

Conclusions: These results extend our knowledge of the phylogenetic diversity of the Chlamydiales, and demonstrate the existence of a new family of chlamydiae infecting arthropods, the *Rhabdochlamydiaceae*. This new bacterial species has now been recovered in pure culture and its possible role in pneumonia is currently investigated by serology.