

and the recently described resistance island. One of the most worrying antibiotic resistance problems in *A. baumannii* is the increasing trend of carbapenem resistance since carbapenems are often used as antibiotics of the last resort. Carbapenem resistance results from metallo- β -lactamases, carbapenem-hydrolyzing oxacillinases and often combined mechanisms of resistance.

Emerging infectious diseases

O246 Risk assessment and management of possible transmission of Lassa virus during two flights

T. Eckmanns, A. Gilsdorf, D. Reynders, D. Coulombier, F. Karcher, G. Krause (Berlin, DE; Brussels, BE; Stockholm, SE; Luxembourg, LU)

Objectives: Since the emergence of Lassa fever, reports of about 25 patients who imported Lassa virus to Europe, USA or Canada have been published. More than 1,200 contacts were ascertained in these events and all remained pathogen free except one who showed a seroconversion. On July 10th a person (patient) who flew from Freetown (Sierra Leone) to Frankfurt (Germany) via Brussels (Belgium) tested Lassa positive nine days after arrival in Germany. A risk assessment was conducted to guide the decision on a co-passenger trace back.

Methods: During the two flights the patient had no cough but a urinary tract catheter which was disconnected from the reservoir and released relevant amounts of urine on the passenger's seat. The patient's urine was tested positive for Lassa virus, which was taken into account for the risk assessment and contributed to the decision to trace back co-passengers potentially exposed.

The passengers at risk were defined as those sitting in maximum three rows distance from the patient. 57 additional persons from the airline and the airport were exposed.

With the help of the airline the passenger's lists of both flights were available within two days. 92 passengers from nine countries were identified. Every country received a list with names and contact telephone numbers of all passengers at risk who were allocated to the country as well as a questionnaire about symptoms to be filled for traced passengers. The trace back of the concerned staff was done by the airline and the Belgian public health authorities.

Results: In EU countries 29 (66%) of 44 contact passengers, in European non-EU countries 7 (68%) of 9 passengers were traceable and from non-European countries 0 of 27 passengers were traceable. 100% of the staff were traceable. Overall 62.4% of the contacts were traceable. Only one of the traced contacts developed symptoms but revealed to be Lassa negative.

Conclusion: In this investigation, the leakage from the urinary catheter reservoir influenced the risk assessment and the decision for a passenger trace back as Lassa fever is primarily transmitted by urine of rats. Nevertheless, no contact passenger revealed Lassa virus. Our investigation confirms that the human to human transmission of Lassa virus during flights is unlikely if no haemorrhagic symptoms appear at this time. Tracing back co-passengers remains a challenge internationally and stresses the need for an early voluntary implementation of the revised international health regulation.

O247 Comparison of oral ribavirin treatment in Crimean–Congo haemorrhagic fever: a historical cohort study in Turkey

N. Elaldi, H. Bodur, A. Celikbas, Z. Ozkurt, H. Leblebicioglu, M. Bakir, K. Aydin, N. Yilmaz, I. Dokmetas, M.A. Cevik, B. Dokuzoguz, M.A. Tasyaran, R. Ozturk, H. Vahaboglu, A. Engin (Sivas, Ankara, Erzurum, Samsun, Trabzon, Istanbul, Kocaeli, TR)

Objectives: To analyse the efficacy of oral ribavirin treatment in Crimean–Congo haemorrhagic fever (CCHF) patients and to compare with a historical cohort.

Methods: In Turkey, patients admitted to four tertiary care hospitals with a disease resembling CCHF were treated with oral ribavirin as recommended by the World Health Organisation (WHO) between April

and September, 2004. Treated patients were compared with an untreated historical cohort who admitted to the same hospitals in 2003. Sera from suspected CCHF patients were obtained immediately following hospitalisation. Whenever possible, a second sample was obtained at least one week later. Serologic and virologic analyses were performed in the CCHF reference laboratory of the RSH Institute of the Turkish Ministry of Health. Only the patients that obtained a definitive diagnosis of CCHF by means of clinical presentation and the presence of specific IgM antibody against CCHF virus and/or viral RNA were included in the study. Demographics of all patients, clinical and laboratory findings, given blood and blood products, length of hospitalisation stay and outcome were recorded.

Results: The treatment group and the historical cohort consisted of 126 and 92 confirmed CCHF cases respectively. The mean age of the treatment group was 44 and 41 years in the historical cohort ($p > 0.05$). Among the given mean units of blood products, only the amount of consumed fresh frozen plasma was significantly lower than the treatment group (median 4 vs 6.5 units; $p < 0.05$). Median length of hospitalisation days was 8 in the treatment group and 9 days in the historical cohort ($p > 0.05$). The case fatality rate in the treatment group was not significantly different than in the historical cohort (7.1% vs 11.9%; $p > 0.05$). A logistic regression analysis showed altered sensorium and/or prolonged international normalised ratio (> 1.4) were independent predictors of mortality. These predictors discriminated fatal cases with a sensitivity of 0.73 (14 of 19 fatal patients) and a specificity of 0.83 (156 of 186 non-fatal patients).

Conclusions: The results of this study showed that oral ribavirin treatment failed to improve the survival rate in our confirmed CCHF cases. However, more controlled studies with oral ribavirin are needed before more definite conclusion. We suggest the use of only the parenteral form of ribavirin according to a risk assessment by the predictors of mortality.

O248 Crimean–Congo haemorrhagic fever among children in Southeast Iran (clinico-epidemiological feature and outcome analysis)

B. Sharifi Mood, M. Mardani, H. Hatami, M. Metanat (Zahedan, Shaheed, IR)

Background: Crimean–Congo haemorrhagic fever (CCHF) is a viral haemorrhagic illness of the nairovirus group. Although primarily it is a zoonosis, sporadic cases and outbreaks of CCHF affecting humans do occur. The disease is endemic in many countries in Africa, Eastern Europe and Asia. During recent years, outbreaks have been reported in South Africa, the Middle East and Iran. Despite the endemicity of the disease especially in the Southeast of Iran, data on CCHF in children from Iran are limited. This study was conducted to detect the risk factor and clinico-epidemiological feature and outcome analysis regarding efficacy of ribavirin in children with CCHF in Iran.

Patients and Method: Between 1999 and 2006, the study included 34 cases under the age of 18 years who were admitted to BooAli hospital in Sistan province of Iran. The diagnosis was confirmed through detection of IgM ELISA and/or genomic segment of PCR CCHFvirus.

Results: Out of 34 children with Crimean–Congo haemorrhagic fever (23 male, 11 female) with age range of 5 to 18 years, 29 patients (85%) were from rural areas and tick bite was determined as a risk factor for 23.5% of affected children. The most observed symptoms were fever (85.2%), myalgia (67.6%) and bleeding (61.7%). The most common sites of bleeding were nasal and oropharyngeal mucosa, with gastrointestinal tract ranking second. High fever ($> 38.5^{\circ}\text{C}$) during hospitalisation, confusion, bleeding from multiple sites, and presence of petechia/echymosis occurred more often in those patients who died than in surviving ones. (The presence of high fever during admission, confusion, bleeding from multiple sites, and petechia/echymosis were associated with higher mortality rate in admitted patients.) Additionally, the mean values of ALT, AST, PTT, INR and urea were also higher, and mean platelet count was lower in the patients who died. Nearly all of the patients (except two) were treated with ribavirin. The recovery rate was