EUROTRAVNET SCIENCE WATCH: MAY 2011


These papers were selected and commented by: Francesca Norman, José Antonio Pérez Molina, and Rogelio López-Vélez from Tropical Medicine, Hospital Ramón y Cajal, Madrid, Spain.
Scientific advances

Molecular surveillance of circulating dengue genotypes through European travelers.


Summary:
Samples from travelers returning from the tropics with acute dengue infections in 2002-2008 were analysed. A total of 186 dengue virus (DENV) strains have been classified into 12 distinct genotype groups within the four dengue serotypes (82 DENV-1, 39 DENV-2, 48 DENV-3 and 17 DENV-4). The identification of the emergence of different sero- and genotypes, the appearance of new clades correlating with outbreaks, and the identification of a dengue-4 genotype not previously reported have been achieved. Most of the patients had traveled to America or the Caribbean and Southeast Asia and Indian subcontinent. However, African strains characterized in this study have provided valuable data on dengue circulation on the continent.

Link to the article: http://www.ncbi.nlm.nih.gov/pubmed/21539658

Public Health significance:
Dengue viruses (DENV) are the most widespread arthropod-borne viruses, which have shown an unexpected geographic expansion, as well as an increase in number and severity of outbreaks in the last decades. Molecular epidemiological studies of imported DENV are essential for the understanding of viral transmission patterns and for tracking the worldwide spread of dengue strains. This study demonstrates the importance of surveillance of imported diseases contributing data for the epidemiological knowledge of infectious diseases in endemic areas.
Scientific advances

Neurocysticercosis in travelers: a nation-wide study in Israel.

Eyal Leshem, Iris Kliers, Mati Bakon, Moshe Gomori, Rebekah Karplus and Eli Schwartz.


Summary:
Cysticercosis is the infection by the larval form of Taenia solium. The authors describe 9 cases of neurocysticercosis diagnosed in Israeli travelers during a period of 15 years. Patients had traveled to South and/or Asia. The most common symptom at diagnosis was a seizure. The average interval between return from the suspected travel and symptom onset was 3.2 ± 1.8 years.

Link to the article: http://www.ncbi.nlm.nih.gov/pubmed/21539659

Public Health significance:
Neurocysticercosis is endemic in many resource-limited countries. In western countries, it is mostly encountered among immigrant populations but rarely in travelers. This report remind that food and water safety practices have to be reinforced in people planned to stay for long periods in endemic regions. It has to be bear in mind that pork avoidance has no role in the prevention of this disease what is a common misleading recommendation.
Scientific advances

Fever with thrombocytopenia associated with a novel bunyavirus in China.


Summary:
Heightened surveillance of acute febrile illness in China since 2009 has led to the identification of a severe fever with thrombocytopenia syndrome (SFTS). After intensive research on subjects with a compatible clinical picture, a novel virus has been isolated (SFTSV). This pathogen is a member of Bunyaviridae family (genus Phlebovirus). The clinical symptoms of SFTS were nonspecific, being fever (100%) and gastrointestinal complaints (50%) the most common. Regional lymphadenopathy was also frequently observed. The most common abnormalities on laboratory testing were thrombocytopenia (95%) and leukocytopenia (86%). Mortality reached 12%. Ticks of the genus Haemaphysalis longicornis may be a candidate vector of SFTSV. Serologic assays showed a virus-specific immune response in all 35 pairs of serum samples collected from patients during the acute and convalescent phases of the illness.

Link to the article: http://www.ncbi.nlm.nih.gov/pubmed/21410387

Public Health significance:
A new emerging virus has appeared in China as a cause of severe acute disease mainly in rural areas. Tick bites could be the mode of transmission. This syndrome has to be bear in mind for travel advice to people travelling to rural areas of China, as well as for those patients with fever returning from China and perhaps other countries of the Asia-Pacific region where the potential vector is widely distributed.
Scientific advances

Efficacy and safety of single and double doses of ivermectin versus 7-day high dose albendazole for chronic strongyloidiasis.


Summary:
A prospective, randomized, open study was conducted in which a 7-day course of oral albendazole 800 mg daily was compared with a single dose (200 microgram/kilogram body weight), or double doses, given 2 weeks apart, of ivermectin in Thai patients with chronic strongyloidiasis. Parasitological cure rate were 63.3%, 96.8% and 93.1% in albendazole, single dose oral ivermectin, and double doses of oral ivermectin respectively (P = 0.006) in modified intention to treat analysis. No serious adverse event associated with treatment was found in any of the groups.

Link to the article: http://www.ncbi.nlm.nih.gov/pubmed/21572981

Public Health significance:
Strongyloidiasis is common throughout the tropics. It remains an important health problem due to autoinfection, which may result in hyperinfection and disseminated infection in immunosuppressed patients, especially patients receiving chemotherapy or corticosteroid treatment. This study confirms that both a single, and a double dose of oral ivermectin taken two weeks apart, is more effective than a 7-day course of high dose albendazole for patients with chronic infection due to S. stercoralis. Double dose of ivermectin, taken two weeks apart, might be more effective than a single dose in patients with concomitant illness.
Is screening for malaria necessary among asymptomatic refugees and immigrants coming from endemic countries?

Monge-Maillo B, López-Vélez R.


**Summary:**
This article assesses the findings of a recent study performed in Canada where malaria prevalence among recently arrived asymptomatic refugees was measured [Matisz CE, Naidu P, Shokoples SE et al. Post-arrival screening for malaria in asymptomatic refugees using real-time PCR. *Am J Trop Med Hyg.* 84, 161-165 (2010)]. A total of 324 refugees were screened for malaria, obtaining a global prevalence of 3.1% by PCR.


**Public Health significance:**
Owing to the impact of malaria on individual and public health, implementation of malaria screening seems necessary, not only among refugees, but also among immigrants even if asymptomatic. This should be performed at specialized centers where PCR determination is available. However, the high cost of PCR and the infrastructure necessary can limit such measure. On the other hand, pre-departure administration of malaria treatment has clearly been cost effective in some studies and reduced significantly the incidence of malaria. Probably specific programs of public health should be defined for the different countries based on the number of the refugees and immigrants hosted and their country of origin. More studies of the prevalence on infectious diseases in recently arrived immigrants and refugees are needed. This information may help elaborate more specific protocols for screening and treatment of infectious diseases in these mobile populations.