Excellence award
The European Society for Clinical Microbiology and Infectious Diseases (ESCMID) excellence award, given each year for an outstanding contribution to clinical microbiology and infectious diseases, was for the first time awarded to a woman, Ilaria Capua (Director of the Division of Comparative Biomedical Sciences at the Centre for Infectious Diseases in Animals, Legnaro Italy, Padua), a member of the Italian Parliament and Vice-President of the 7th Parliamentary Commission for Culture, Science, and Education.

Capua received the award in recognition of her work on influenza and for prompting debate on international collaboration to foster transparency in viral genetic research. In a lecture, Close encounters of the third kind—pathogens and globalisation, she discussed how infectious diseases exploit the process of globalisation and find the best way to survive. Talking to TLD, Capua also warned that “to deliver well in health, scientists need to make sure that the scientific community is communicating properly with the public, the journalists, the constituency, citizenship, and with the politicians. The only thing worse than being blind is to have sight but not vision”.

Capua dedicated the award to two women: Isabel Minguez Tudela (1956–2011), a European researcher who had promoted the one health initiative, and Caterina Simonsen, an Italian veterinary student affected by four rare genetic diseases who received death threats on her Facebook page after she posted a message stressing the importance of animal research.

Missed cases of C difficile
Data from 482 European hospitals in 20 countries show that in 1 day, around 109 cases of Clostridium difficile are missed because of a lack of clinical suspicion or inadequate laboratory testing, which could lead to more than 39 000 missed cases in Europe each year. Data from EUCLID (European Multicentre Prospective Biannual Point Prevalence Study of C difficile Infection in Hospitalized Patients With Diarrhea) were presented by Kerrie A Davies and colleagues (Leeds Teaching Hospitals, Microbiology Department, Leeds, UK [P0753]). “This is a very simple and quite embarrassing message”, said Mark Wilcox (Leeds Teaching Hospitals and University of Leeds). “Obviously this misdiagnosis rate changes from country to country, with eastern Europe being the killer. The testing-rates data indicate that the more you test, the more you find.”

Recently approved antibiotics
Ursula Theuretzbacher presented data on the β-lactamase inhibitors avibactam and MK-7655 and the different combinations with antibiotics. Avibactam is a new β-lactamase inhibitor in the late stages of clinical development for use in combination with ceftazidime, a broad-spectrum cephalosporin, to treat the increasing number of Gram-negative infections, including extended-spectrum β-lactamases (ESBLs) and Klebsiella pneumoniae carbapenemases (KPCs) that are resistant to existing therapies. A combination of avibactam with ceftaroline covers Staphylococcus aureus, Enterobacteriaceae with ESBL (mostly KPC); avibactam combined with aztreonam is active against metallo-β-lactamases and drug-resistant Gram-negative organisms. MK-7655 has good in-vitro activity against organisms with class A and class C carbapenemases, especially when combined with imipenem. The drug is in phase 2 clinical development.

New antibiotics
Ceftolozane, a new cephalosporin, has potent in vitro activity against Pseudomonas aeruginosa when given with tazobactam, a well established β-lactamase inhibitor. “Ceftolozane is believed to work by inhibiting the efflux pump in P aeruginosa”, Steven Gilman (Cubist Pharmaceuticals) told TLD.

In a phase 3 trial of patients with complicated urinary tract infections, the primary endpoint was a composite of microbiological eradication and clinical cure rate (composite cure rate) at 5–9 days after end of therapy—the test of cure (TOC) visit. The composite cure rates at TOC were 77% in the microbiological modified intent-to-treat population and 68% in the per protocol analysis. Ceftolozane–tazobactam seemed to have better results than levofloxacin in this trial. Eradication rates in the microbiologically evaluable population for ceftolozane–tazobactam versus levofloxacin were 91% versus 80% for Escherichia coli (n=546), 84% versus 61% for K pneumoniae (n=48), and 86% versus 58% for P aeruginosa.
Prevention on vCJD in Texas

For the case of variant Creutzfeldt-Jakob disease (vCJD) was confirmed in Texas, USA, by the US Centers for Disease Control and Prevention, after an autopsy of the patient’s brain. This is the fourth reported case in the country and, like previous cases, is believed to have originated from outside the USA because the patient had travelled extensively. The disease is believed to be contracted by the consumption of cow products contaminated with the bovine spongiform encephalopathy prion.

Parechovirus in Australia

An outbreak of parechovirus in Australia has spread to Queensland with at least 11 confirmed cases in the state up to June 4, 2014, and a total of 46 confirmed cases in the country since the outbreak began in December, 2013. The virus, which mostly affects infants, commonly causes mild respiratory or gastrointestinal symptoms, but in severe cases can develop into hepatitis or encephalitis and become fatal. The outbreak is believed to be caused by at least four types of the virus; no vaccine is available. Health experts have advised parents to practice good hygiene around babies to avoid infection.

vCJD in Texas

On June 2, a case of variant Creutzfeldt-Jakob disease (vCJD) was confirmed post mortem in Texas, USA, by the US Centers for Disease Control and Prevention, after an autopsy of the patient’s brain. This is the fourth case in the country and, like previous cases, is believed to have originated from outside the USA because the patient had travelled extensively. The disease is believed to be contracted by the consumption of cow products contaminated with the bovine spongiform encephalopathy prion.

Infectious disease surveillance update

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Meningococcal B vaccine

Meningococcal serogroup B causes more than 70% of meningococcal disease in Europe. The 4CMenB vaccine Bexsero is the first to cover meningococcal B meningitis. In clinical trials with participants as young as 2 months the vaccine has a protective immune response in infants, children, adolescents, and adults. “Some researchers think that the risk of fever during co-administration with seven-valent pneumococcal vaccine, diphtheria, tetanus, and pertussis vaccine, hepatitis B virus vaccine, inactivated polio vaccine and Haemophilus influenzae b vaccine is too high”, Susanna Esposito (Pediatric Highly Intensive Care Unit, Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico, Milan, Italy) told The Lancet Infectious Diseases when asked about the risk of giving with routine immunisations in the first year of life. 60% of the adults present fever after being given the vaccine but in children younger than 5 years the high fever can be associated with a risk of febrile convulsions, which cannot be considered acceptable, Esposito explained. A solution could be to give this vaccine either during the first year of life with a month interval from the routine vaccinations, or alternatively between ages 12 and 24 months when the routine vaccinations have been completed.

In her presentation at ECCMID, Esposito also discussed the Pfizer investigational meningococcal B vaccine, bivalent rLP2086. A global development programme for the vaccine with around 20000 adolescents and young adults is in progress. The vaccine generates bactericidal responses against diverse meningococcal serogroup B test strains after either two or three doses. “We will have in a short time two different vaccines. Bexsero (Novartis), which works in infants and has been approved and is on the market in Europe, and the Pfizer one in development in USA and more indicated in adolescents”, said Esposito.

Raffaella Bosurgi

Ebola in west Africa

New cases of Ebola virus disease continue to be reported in west Africa, with 37 new cases and 21 new deaths in Guinea, and 13 new cases in Sierra Leone, all reported between May 29 and June 1. The cumulative totals for these countries are now 328 cases, including 208 deaths, in Guinea; and 79 cases, including six deaths, in Sierra Leone. One patient with suspected Ebola died in Foya, Liberia, but was originally from nearby Kailahun, Sierra Leone. A treatment centre is being set up by Médecins Sans Frontières in Koidu, Sierra Leone, the epicentre of the epidemic in the country, and five additional experts have been deployed by WHO in Macenta and Gueckedou, Guinea, to address resistance within communities to seeking treatment, and data and case management.

Nicolas Dolan