Monthly Newsletter
September 2014

ANSORP *NOW*

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Dear ANSORP Investigators

Greetings from Seoul !
I hope all ANSORP investigators are doing well.

This is the 2014 September issue of ANSORP NOW. It provides update information and current status of ANSORP activities. "ANSORP NOW" is a monthly newsletter, delivered to all ANSORP investigators by e-mail and website of APFID (www.apfid.org).

Please read this ANSORP NOW carefully to update our international collaboration. If you have any ideas, opinions, or issues that can be shared with other ANSORP investigators, please send us e-mails or FAX.

I always appreciate your active participation in the ANSORP activities.

Jae-Hoon Song, MD, PhD
Organizer, ANSORP
Founder & Chairman, APFID

WHO Meeting of the Working Group for Global Surveillance of Antimicrobial Resistance (AMR)

The meeting of the working group for global surveillance of antimicrobial resistance (AMR) was held at the headquarters of the World Health Organization (WHO) in Geneva, Switzerland on September 23-25, 2014.

The 1st technical consultation meeting on strategies for global surveillance of AMR was held in Geneva in December 2013 to review and identify the objectives, needs, gaps, priorities, and next steps for improving global surveillance of AMR and to explore opportunities for collaboration. The 2nd consultation meeting was held in March 2014 to scope and define the steps that would be needed to develop standards for surveillance and to consider a possible specification for a global platform for collaboration and data sharing. So, a road map for improving global AMR surveillance was outlined during a 1st technical consultation and further built upon during a 2nd technical consultation.

After the 2nd technical consultation, three working groups consisting of WHO staff, collaborating centres, and some external partners were formed. The overarching tasks for these working groups have been to draft standards for AMR surveillance and to create a platform for collaboration. ANSORP is participating the working group for global collaboration and networking. The draft standards prepared by the working groups will be presented and subject to a broader stakeholder consultation hosted by Sweden and WHO in December 2014 in support of the draft Global Action Plan.

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Current status of ANSORP studies

A prospective, hospital-based, multicenter surveillance on antimicrobial resistance and serotypes of *S. pneumoniae* in hospitalized patients with invasive pneumococcal diseases or pneumonia in Asia

(*Sponsored by Pfizer*)

- Principle Investigator :
  Dr. Jae-Hoon Song, Samsung Medical Center, Korea
- The purpose of the study is to investigate the serotype distribution of *S. pneumoniae* isolates from the adult patients over 50 years with invasive pneumococcal diseases or community-acquired pneumonia in the PCV era.
- The study has been started since Dec 2013 (Nov 2012 in Korea) and is supposed to be completed by Nov 2015.
- Seven countries (Korea, China, Indonesia, Malaysia, Philippines, Singapore, and Thailand) are participating in the study.
- About 160 case has been enrolled in Korea so far. Thailand and Philippines have started case enrollment while invitation of centers which are willing to join the study and IRB approval process in some centers are in progress in the other countries.

Capacity assessment of antimicrobial stewardship in the Asia Pacific

(*Sponsored by Asia Pacific Foundation for Infectious Diseases, APFID*)

- Principle Investigators :
  Dr. Li Yang Hsu, National University Hospital &
  Dr. David Lye, Tan Tock Seng Hospital Singapore, Singapore
- The purpose of the study is to evaluate the presence of antimicrobial stewardship program (ASP) and/or capacity for antimicrobial stewardship in Asian countries.
- Thanks to ANSORP investigators' contribution, the online questionnaire survey on ASP in hospitals in Asian countries were conducted from May to July 2014. Two lucky draw winners were received iPad Air (64G).
- Completed responses from all 8 survey sites (8 languages) were collated and a total of 139 completed responses were collected. The results of the survey may provide valuable information about ASP in the Asian region.

A multicenter, multinational serosurvey study for pertussis among children 10-18 years old in Asia

(*Sponsored by Sanofi-Pasteur*)

- Principle Investigators:
  Dr. Cheng-Hsun Chiu, Chang-Gung Children's Hospital, Taiwan & Dr. Yae-Jean Kim, Samsung Medical Center, Korea
- The purpose of the study is to perform a serosurvey of *Bordetella pertussis* infections among children to measure the anti-pertussis toxin IgG levels and describe their distribution among children aged 10-18 years old in Asia.
- The study has been started since Oct 2013 and is supposed to be completed by Sep 2015.
- Ten centers in seven countries/areas (Korea, China, Japan, Taiwan, Thailand, Sri Lanka, and India) are participating in the study.
- About 1130 cases have been enrolled so far (55% of target enrollment).
- First shipment of the serum samples collected from participating centers to the central lab located in Samsung Medical Center in Seoul, Korea, except those from China and India, has been completed.
- The serological test of serum samples collected from participating centers at the central lab is currently underway.
- The shipment of the ELISA kits for the serological test for Chinese and Indian centers, where serum samples cannot be sent to the central lab, will be done.
- The study results will help evaluating the *B. pertussis* antibody seroprevalence in Asia, guide estimating individuals with recent infection and susceptible population at risk for pertussis infection, and further assist decision-making on vaccination policy in this age group.

Interesting papers

Tracking colistin-cases for monitoring the incidence and outcome of carbapenem-resistant gram-negative infections

Clin Infect Dis. 2014 Sep 22. pii: ciu741. [Epub ahead of print].

Kadri SS, Hohmann SF, Orav EJ, Bonne SL, Moffa MA, Timpone JG, Strich JR, Palmore T, Christopher KB, Varughese C, Hooper DC, Danner RL

ABSTRACT

BACKGROUND: Existing surveillance mechanisms may underestimate the incidence of carbapenem-resistant gram-negative infections (CRGNIs). While carbapenem resistance increases the risk of death, the trend in mortality over time is unknown.

METHODS: A retrospective cohort study was conducted at 40 academic medical centers using a discharge database to identify non-cystic fibrosis, adult hospital admissions (2006-12) who received intravenous colistin for >3 consecutive days or died on therapy (termed colistin-cases). Primary outcomes were colistin-cases/100,000 admissions/year and change in hospital mortality over time relative to discharge home. Secondary outcomes included median overall and ICU lengths of stay (LOS).

RESULTS: From 2006 to 2012, 5,011 unique patients were identified as colistin-cases. Colistin-cases/100,000 admissions/year increased from 35.56 to 92.98 over the 7-year study ($p<0.001$). The odds of in-hospital mortality among colistin-cases (compared to discharge home) decreased on average by 5.2%/year ($p=0.039$), whereas discharge to an institution ($p=0.24$) or hospice ($p=0.89$) remained steady over time. Median overall and ICU LOS decreased by 7.5 and 6 days respectively ($p<0.001$). In a 4-hospital chart review, 81.6% of colistin-cases were found to have culture positive CRGNIs. Conversely, 53% of extensively drug-resistant, CRGN blood stream infections at two of these hospitals met colistin-case criteria.

CONCLUSIONS: Colistin-cases represent a severely ill population with a high probability of having culture-confirmed CRGNIs. Colistin tracking is a novel strategy for monitoring the incidence and mortality of CRGNIs, particularly those caused by extensively drug-resistant bacteria. While colistin-cases nearly trebled over 7 years, more patients are surviving hospitalization and going home.

Global antibiotic consumption 2000 to 2010: an analysis of national pharmaceutical sales data.

Lancet Infect Dis. 2014 Aug;14(8):742-50

Van Boeckel TP, Gandra S, Ashok A, Caudron Q, Grenfell BT, Levin SA, Laxminarayan R.

ABSTRACT

BACKGROUND: Antibiotic drug consumption is a major driver of antibiotic resistance. Variations in antibiotic resistance across countries are attributable, in part, to different volumes and patterns for antibiotic consumption. We aimed to assess variations in consumption to assist monitoring of the rise of resistance and development of rational-use policies and to provide a baseline for future assessment.

METHODS: With use of sales data for retail and hospital pharmacies from the IMS Health MIDAS database, we reviewed trends for consumption of standard units of antibiotics between 2000 and 2010 for 71 countries. We used compound annual growth rates to assess temporal differences in consumption for each country and Fourier series and regression methods to assess seasonal differences in consumption in 63 of the countries.

FINDINGS: Between 2000 and 2010, consumption of antibiotic drugs increased by 36% (from 54 083 964 813 standard units to 73 620 748 816 standard units). Brazil, Russia, India, China, and South Africa accounted for 76% of this increase. In most countries, antibiotic consumption varied significantly with season. There was increased consumption of carbapenems (45%) and polymixins (13%), two last-resort classes of antibiotic drugs.

INTERPRETATION: The rise of antibiotic consumption and the increase in use of last-resort antibiotic drugs raises serious concerns for public health. Appropriate use of antibiotics in developing countries should be encouraged. However, to prevent a striking rise in resistance in low-income and middle-income countries with large populations and to preserve antibiotic efficacy worldwide, programmes that promote rational use through coordinated efforts by the international community should be a priority.

If you need PDF version of the papers, please contact ANSORP Project Manager (Dr. So Hyun Kim, shkim@apfid.org).

We always appreciate your active contribution to ANSORP activities.
If you have any questions, or issues that can be shared with other ANSORP investigators, please let us know them at any time.