

ANSORP NOW

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Dear ANSORP Investigators

Greetings from Seoul !

I hope all ANSORP investigators are doing well.

This is the **2014 August 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

APEC High-Level Meeting on Health and Economy & APEC Health Working Group Meeting

The 4th APEC High-Level Meeting (HLM) on Health and Economy and APEC Health Working Group (HWG) meeting were held in Beijing, China on August 12-15, 2014. Dr. Jae-Hoon Song was invited as a speaker and panelist for the session on antimicrobial resistance and healthcare-associated infections of HLM, which discussed capacity building efforts to design/implement surveillance systems, conduct surveillance and reporting on healthcare-associated infections.



Dr. So Hyun Kim, ANSORP Project Manager, attended the HWG meeting to present the progress report of the APEC project entitled **"Enhancing health security in APEC - Implementation of international campaign program to control antimicrobial resistance in the Asia-Pacific"**, which was approved by APEC as a self-funded project in 2014 and is to implement the international campaign for raising AMR awareness and promoting appropriate antibiotic use in Asia, "Campaign 4".

Also, **'APEC guideline to tackle antimicrobial resistance in the Asia-Pacific'** which was developed by APFID was presented and endorsed by APEC HWG.

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Current status of ANSORP studies & activities

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 150 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 ASP and/or capacity for antimicrobial stewardship in Asian countries.
- Thanks to ANSORP investigators' contribution, the online questionnaire survey on antimicrobial stewardship (ASP) in hospitals in Asian countries were conducted from May to July 2014.
- 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 1040 cases have been enrolled so far (50% 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, is currently in process for further serological test.
- 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.

International campaign program on AMR "Campaign 4"

The Campaign 4 is an international campaign program to increase the awareness of AMR and to promote the appropriate use of effective antibiotics in general public and healthcare professionals in the Asian region.



APFID has been developing the campaign program and contents and materials for the campaign for several years. We plan to implement Campaign 4 to increase the awareness of AMR in the Asian region using various campaign contents, including e-learning program, video clips, posters, leaflets, etc. from late 2014 for prevention and control of AMR in the region.

Interesting papers

Combination therapy for carbapenem-resistant Gram-negative bacteria

J Antimicrob Chemother. 2014 Sep;69(9):2305-9.

Paul M, Carmeli Y, Durante-Mangoni E, Mouton JW, Tacconelli E, Theuretzbacher U, Mussini C, Leibovici L.

ABSTRACT

Carbapenem-resistant Gram-negative bacteria (CR-GNB) represent an increasing hazard in healthcare settings. A central question concerning the treatment of invasive infections caused by CR-GNB involves the use of combination therapy. Potential advantages of combination therapy include improved efficacy due to synergy, while the disadvantages include adverse events and increased antibiotic use with a potential drive towards resistance. Several observational studies have examined whether combination therapy offers an advantage over colistin/polymyxin monotherapy. We highlight the inherent limitations of these studies related to their observational design and sample size to show why they do not at present provide an answer to the question of combination versus monotherapy. This distinction is important to guide clinical practice until solid evidence has been obtained and to enable the recruitment of patients into randomized controlled trials. A few randomized controlled trials examining specific combinations have recently been completed or are ongoing. Currently, however, there is no evidence-based support for most combination therapies against CR-GNB, including colistin/carbapenem combination therapy.

Deaths attributable to carbapenem-resistant Enterobacteriaceae infections

Emerg Infect Dis. 2014 Jul;20(7):1170-5.

Falagas ME, Tansarli GS, Karageorgopoulos DE, Vardakas KZ

ABSTRACT

We evaluated the number of deaths attributable to carbapenem-resistant Enterobacteriaceae by using studies from around the world published before April 9, 2012. Attributable death was defined as the difference in all-cause deaths between patients with carbapenem-resistant infections and those with carbapenem-susceptible infections. Online databases were searched, and data were qualitatively synthesized and pooled in a metaanalysis. Nine studies met inclusion criteria: 6 retrospective case-control studies, 2 retrospective cohort studies, and 1 prospective cohort study. *Klebsiella pneumoniae* was the causative pathogen in 8 studies; bacteremia was the only infection

Impact of 13-valent pneumococcal conjugate vaccination in invasive pneumococcal disease incidence and mortality

Clin Infect Dis. 2014 Jul 16. [Epub ahead of print]

Harboe ZB, Dalby T, Weinberger D, Benfield T, Mølbak K, Slotved HC, Suppli CH, Konradsen HB, Branth PV

ABSTRACT

BACKGROUND: The impact of the 13-valent pneumococcal conjugate vaccine (PCV13) at population level is unclear. We explored PCV13's effect in reducing invasive pneumococcal disease (IPD)-related morbidity and mortality, and whether serotype-specific changes were attributable to vaccination or expected as a part of natural, cyclical variations.

METHODS: Danish nationwide population-based cohort study based on the linkage of laboratory surveillance data and the Danish Civil Registration System. Changes in IPD-incidence and mortality during baseline (2000-2007), PCV7 (2008-2010) and PCV13 (2011-2013)-periods were estimated. Predicted incidences of serotypes were estimated controlling for cyclical trends from historical patterns observed during the past 20-years.

RESULTS: We observed a 21% reduction (95% CI, 17%-25%) in IPD-incidence in the total population after PCV13's introduction, and a 71% reduction (95% CI, 62%-79%) in children <2 years, considered as PCV13's effectiveness. We estimated a 28% reduction (95% CI, 18%-37%) in IPD-attributable 30-day mortality, from 3.4 deaths (95% CI, 3.2-3.6) per 100,000 population in the pre-PCV period to 2.4 (95% CI, 2.2-2.7) in the PCV13-period. The decline in mortality was observed across all age groups, but mainly related to mortality reductions in the non-vaccinated population. For serotypes 1 and 3, there were no significant changes in incidence beyond what would be expected from natural cyclical patterns. Serotype 19A significantly increased following PCV7's introduction, but the incidence declined towards baseline in 2012.

CONCLUSIONS: PCV13 has brought greater benefits than we had expected in our setting. We observed a further decline on IPD-incidence shortly after the shift from PCV7 to PCV13 in the national immunization program. This decline was accompanied by a substantial population-level decline in pneumococcal-related mortality of nearly 30% among non-vaccinated persons.

in 5 studies. We calculated that 26%-44% of deaths in 7 studies were attributable to carbapenem resistance, and in 2 studies, which included bacteremia and other infections, -3% and -4% of deaths were attributable to carbapenem resistance. Pooled outcomes showed that the number of deaths was significantly higher in patients with carbapenem-resistant infections and that the number of deaths attributable to carbapenem resistance is considerable.

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.