Monthly Newsletter
March 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 March 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 technical consultation meeting on global surveillance of antimicrobial resistance (AMR)

WHO has identified AMR as a technical priority. Following the WHO technical consultation meeting on AMR surveillance in December 2012 and Strategic and Technical Advisory Group on global strategy for tackling antimicrobial resistance (STAG-AMR) meeting in September 2013, 2nd WHO technical consultation meeting on global AMR surveillance was held on March 18-19 in Geneva, Switzerland.

The purposes of the meeting were to define the objectives, to outline the development of standards, and to review methods for global surveillance of AMR. The vision of the global AMR surveillance is to achieve monitoring capacity to capture essential information on the prevailing global situation of AMR that can be used to inform decision and policy making. On behalf of ANSORP, Dr. So Hyun Kim attended the meeting.

Contact Information

Jae-Hoon Song, MD, PhD
Organizer, ANSORP / Chairman, APFID
Samsung Medical Center
Tel: 82-2-3410-0320, FAX: 82-2-3410-0041
E-mail: ansorp@gmail.com or
songjh@skku.edu

Doo Ryeon Chung, MD, PhD
Coordinator, ANSORP
Samsung Medical Center
Tel: 82-2-3410-0323, FAX: 82-2-3410-0041
E-mail: iddrchung@gmail.com or
drchung@skku.edu

So Hyun Kim, DVM, PhD
Project Manager, ANSORP
Asia Pacific Foundation for Infectious Diseases
Tel: 82-2-3410-6826, FAX: 82-2-3410-6667
E-mail: shkim@ansorp.org or
shkim.ansorp@gmail.com

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.
- Case enrollment has been started in centers in Korea since Nov 2012 while invitation of centers which participate in the study and IRB approval process in each participating center in other countries are underway.

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.
- Questionnaire was translated into different languages and review and revision of the translated questionnaire has been finished.
- Online questionnaire survey on antimicrobial stewardship in hospitals in Asian countries will be started soon and both ANSORP centers and non-ANSORP centers in Asian countries will be invited to join this survey study.

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 competed by Sep 2015.
- Ten centers in seven countries (Korea, China, Japan, Taiwan, Thailand, Sri Lanka, and India) are participating in the study. Case enrollment has been started in most participating centers in seven countries.
- Serum samples collected from participating centers will be transported to the central lab located in Samsung Medical Center in Seoul, Korea, except those from China and India, for further serological test in mid to late 2014.
- 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.

For All, For Life
save antibiotics

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 early 2014 for prevention and control of AMR in the region.

Interesting papers

Determining a clinical framework for use of cefepime and β-lactam/β-lactamase inhibitors in the treatment of infections caused by ESBL-producing Enterobacteriaceae

J Antimicrob Chemother. 2014 Apr;69(4):871-80

Nguyen HM1, Shier KL, Graber CJ.

ABSTRACT

Traditionally, physicians have not used cefepime (a fourth-generation cephalosporin with greater stability against β-lactamases) or β-lactam/β-lactamase inhibitors (BLBLIs) for infections caused by bacteria (generally *Escherichia coli* and *Klebsiella* species) that produce an extended-spectrum β-lactamase (ESBL). Many microbiology laboratories have historically labelled these ESBL-producing organisms as resistant to all cephalosporins regardless of their MIC. The recommendation to eliminate ESBL identification started with EUCAST in 2009, followed by CLSI in 2010. As a consequence, many ESBL-producing organisms that were previously labelled as resistant to all cephalosporins may be reclassified as susceptible to some (particularly cefepime), depending on their MICs. Because there are limited treatment options against ESBL-producing organisms, there is growing interest in using cefepime and BLBLIs. In this review, we examine the clinical outcomes of therapy directed against ESBL-producing Enterobacteriaceae and the pharmacokinetics/pharmacodynamics of cefepime and BLBLIs to construct a clinical framework for how physicians can best employ these carbapenem-sparing alternatives for the treatment of infections caused by ESBL-producing Enterobacteriaceae. We conclude that standard-dose cefepime is a reasonable option for the definitive therapy of invasive infections resulting from ESBL-producing *E. coli* and *Klebsiella* species when the MIC for the organism is ≤2 mg/L (CLSI) or ≤1 mg/L (EUCAST), although higher doses may be considered for MICs in the 4-8 mg/L range. Piperacillin/tazobactam is also a reasonable option when the MIC is ≤16 mg/L.

An ongoing national intervention to contain the spread of carbapenem-resistant enterobacteriaceae

Clin Infect Dis. 2014 Mar;58(5):697-703

Schwaber MJ, Carmeli Y.

ABSTRACT

In 2007, the Israel Ministry of Health initiated a nationwide intervention aimed at containing the spread of carbapenem-resistant Enterobacteriaceae (CRE), primarily manifested by the rapid dissemination of a single clone of *Klebsiella pneumoniae*. Data were gathered from acute and long-term care facilities, and ward-based mandatory guidelines for carrier isolation, patient and staff cohorting, and active surveillance were issued. Guidelines were issued to the microbiology laboratories delineating procedures for identifying CRE and carbapenemase production. A protocol for ruling out continued carriage in known carriers was established. Compliance with national guidelines was overseen via site visits at healthcare facilities, routine reporting of carrier census and isolation status, and the establishment of a network of communications to facilitate reporting on identified carriage, contact tracing and screening, and outbreak investigations. During the intervention, nosocomial CRE acquisition in acute care declined from a monthly high of 55.5 to an annual low of 4.8 cases per 100 000 patient-days (P < .001).

Antibiotic treatment of infections due to carbapenem-resistant Enterobacteriaceae: systematic evaluation of the available evidence.

Antimicrob Agents Chemother. 2014 Feb;58(2):654-63

Falagas ME, Lourida P, Poulikakos P, Rafailidis PI, Tansarli GS.

ABSTRACT

We sought to evaluate the effectiveness of the antibiotic treatment administered for infections caused by carbapenemase-producing Enterobacteriaceae. The PubMed and Scopus databases were systematically searched. Articles reporting the clinical outcomes of patients infected with carbapenemase-producing Enterobacteriaceae according to the antibiotic treatment administered were eligible. Twenty nonrandomized studies comprising 692 patients who received definitive treatment were included. Almost all studies reported on *Klebsiella* spp. In 8 studies, the majority of infections were bacteremia, while pneumonia and urinary tract infections were the most common infections in 12 studies. In 10 studies, the majority of patients were critically ill. There are methodological issues, including clinical heterogeneity, that preclude the synthesis of the available evidence using statistical analyses, including meta-analysis. From the descriptive point of view, among patients who received combination treatment, mortality was up to 50% for the tigecycline-gentamicin combination, up to 64% for tigecycline-colistin, and up to 67% for carbapenem-colistin. Among the monotherapy-treated patients, mortality was up to 57% for colistin and up to 80% for tigecycline. Certain regimens were administered to a small number of patients in certain studies. Three studies reporting on 194 critically ill patients with bacteremia showed individually significantly lower mortality in the combination arm than in the monotherapy arm. In the other studies, no significant difference in mortality was recorded between the compared groups. Combination antibiotic treatment may be considered the optimal option for severely ill patients with severe infections. However, well-designed randomized studies of specific patient populations are needed to further clarify this issue.

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