

ANSORP NOW

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Dear ANSORP Investigators

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

This is the **2013 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.

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WHO consultation meeting on AMR surveillance in the Western Pacific region

WHO Western Pacific Region (WPRO) technical consultation meeting on antimicrobial resistance (AMR) surveillance in the Western Pacific region was held on August 1-3, 2013 in Manila, Philippines. In order to strengthen and revitalize AMR surveillance in the region, the current status of regional/national AMR surveillance networks was reviewed and information and expertise between AMR surveillance networks were shared at the meeting.

Dr. Jae-Hoon Song, Dr. Doo-Ryeon Chung, and Dr. So Hyun Kim were invited to the meeting to share ANSORP experience on AMR surveillance. Dr. Chung had a presentation about ANSORP experience and Dr. Song presented the international campaign program, Campaign 4, which will be launched in 2013-2014 in collaboration with APEC. Dr. Celia Carlos from Philippines and Dr. Li Yang Hsu from Singapore were also invited as experts to share their expertise and experience on AMR surveillance in their countries.



Interesting papers

Modeling the regional spread and control of VRE

Am J Infect Control. 2013 Aug;41(8):668-73

Lee BY, Yilmaz SL, Wong KF, Bartsch SM, Eubank S, Song Y, Avery TR, Christie R, Brown ST, Epstein JM, Parker JI, Huang SS.

ABSTRACT

Background: Because patients can remain colonized with vancomycin-resistant enterococci (VRE) for long periods of time, VRE may spread from one health care facility to another.

METHODS: Using the Regional Healthcare Ecosystem Analyst, an agent-based model of patient flow among all Orange County, California, hospitals and communities, we quantified the degree and speed at which changes in VRE colonization prevalence in a hospital may affect prevalence in other Orange County hospitals.

RESULTS: A sustained 10% increase in VRE colonization prevalence in any 1 hospital caused a 2.8% (none to 62%) average relative increase in VRE prevalence in all other hospitals. Effects took from 1.5 to >10 years to fully manifest. Larger hospitals tended to have greater affect on other hospitals.

CONCLUSIONS: When monitoring and controlling VRE, decision makers may want to account for regional effects. Knowing a hospital's connections with other health care facilities via patient sharing can help determine which hospitals to include in a surveillance or control program.

Impact of rapid organism identification via MALDI-TOF combined with antimicrobial stewardship team intervention in adult patients with bacteremia and candidemia.

Clin Infect Dis. 2013 Jul 29. [Epub ahead of print]

Huang AM, Newton D, Kunapuli A, Gandhi TN, Washer LL, Isip J, Collins CD, Nagel JL.

ABSTRACT

Background. Integration of rapid diagnostic testing via matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) with antimicrobial stewardship team (AST) intervention has the potential for early organism identification, customization of antibiotic therapy and improvement in patient outcomes. The objective of this study was to assess the impact of this combined approach on clinical and antimicrobial therapy-related outcomes in patients with bloodstream infections.

Methods. A pre-post quasi-experimental study was conducted to analyze the impact of MALDI-TOF with AST intervention in patients with bloodstream infections. The AST provided evidence-based antibiotic recommendations after receiving real-time notification following blood culture Gram stain, organism identification, and antimicrobial susceptibilities. Outcomes were compared to a historic control group.

Antibiotic reduction campaigns do not necessarily decrease bacterial resistance: the example of MRSA

Antimicrob Agents Chemother. 2013 Sep;57(9):4410-6

Kardas-Sloma L, Boëlle PY, Opatowski L, Guilletot D, Temime L.

ABSTRACT

Interventions designed to reduce antibiotic consumption are under way worldwide. While overall reductions are often achieved, their impact on the selection of antibiotic-resistant selection cannot be assessed accurately from currently available data. We developed a mathematical model of methicillin-sensitive and methicillin-resistant *Staphylococcus aureus* (MSSA and MRSA) transmission inside and outside the hospital. A systematic simulation study was then conducted with two objectives: to assess the impact of antibiotic class-specific changes during an antibiotic reduction period and to investigate the interactions between antibiotic prescription changes in the hospital and the community. The model reproduced the overall reduction in MRSA frequency in French intensive-care units (ICUs) with antibiotic consumption in France from 2002 to 2003 as an input. However, the change in MRSA frequency depended on which antibiotic classes changed the most, with the same overall 10% reduction in antibiotic use over 1 year leading to anywhere between a 69% decrease and a 52% increase in MRSA frequency in ICUs and anywhere between a 37% decrease and a 46% increase in the community. Furthermore, some combinations of antibiotic prescription changes in the hospital and the community could act in a synergistic or antagonistic way with regard to overall MRSA selection. This study shows that class-specific changes in antibiotic use, rather than overall reductions, need to be considered in order to properly anticipate the impact of an antibiotic reduction campaign. It also highlights the fact that optimal gains will be obtained by coordinating interventions in hospitals and in the community, since the effect of an intervention in a given setting may be strongly affected by exogenous factors.

Results. A total of 501 patients with bacteremia or candidemia were included in the final analysis: 245 patients in the intervention group and 256 patients in the pre-intervention group. MALDI-TOF with AST intervention decreased time to organism identification (84.0 vs 55.9 hrs, $P<0.001$), and improved time to effective antibiotic therapy (30.1 vs 20.4 hrs, $P=0.021$) and optimal antibiotic therapy (90.3 vs 47.3 hrs, $P<0.001$). Mortality (20.3 vs 14.5%), length of intensive care unit stay (14.9 vs 8.3 days), and recurrent bacteremia (5.9 vs 2.0%) were lower in the intervention group on univariate analysis, and acceptance of an AST intervention was associated with a trend toward reduced mortality on multivariable analysis (OR 0.55, $P=0.075$).

Conclusion. MALDI-TOF with AST intervention decreased time organism identification, and time to effective and optimal antibiotic therapy.

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.