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Time: 12:45-14:15
Room: Ballroom

Antibiotic resistance and genomic phylogenetic analysis of animal pseudomonad isolates in comparison with human isolates

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Background: Antibiotic resistance (ABR), a typical emerging phenomenon of highly complex and self-organising systems evolving at the edge of chaos, is a worldwide problem.

Beside over consumption and inappropriate use several fundamental issues are still not well understood, like their natural role, while data on incidence and prevalence of antibiotic resistances among animals, domesticated and wild are also only fragmentary available.

Methods & Materials: Our batch (86) included pseudomonad isolates, mainly aeruginosa, (of 50 pets (dog, cat, turtle, parrot), 16 farm animals (cow, sheep, horse, pig, goat), 7 zoo animals (seal, dolphin, kangaroo, tamarind) and 13 wild sea turtles.

The strains were biochemically (Vitek-BioMérieux) and genomically identified (pseudomonad-specific *opr*I/L lipoprotein PCR) before antibiotic resistance profiling and *P.aeruginosa* serotyping was done. Antibiotics tested were temocillin, ticarcillin, ticarcillin + clavulanic acid, piperacillin/tazobactam, ceftazidime, cefepim, aztreonam, imipenem, meropenem, amykacin, gentamycin, tobramycin, ciprofloxacin, tigecyclin, fosfomycin, colistin, and timethoprim + sulfamethoxazole. All strains were genotyped by Rep-PCR (Diversilab-BioMérieux). All isolates originated from Portugal except the turtle isolates who were sampled in Sao Tomé.

Results: Serotypes 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 15 were detected while 6 was the most common and 5 and 7 only present among wild turtles. Most prevalent serotype among dogs (39) was 1 and 6 (23 and 20%), among farm animals serotype 1, 4 and 6 (>50%) were detected, serotypes 1, 6, 9,11 were detected among the zoo isolates. Multidrug-resistant bacteria was isolated among pets (20%) and farm animals (13%) while none was found among zoo animals but surprisingly 2/13 sea turtle showed resistance for' ticarcillin + clavulanic acid, aztreonam and fosfomycin'. One extensively drug-resistant (XDR) isolate, only sensitive for aminoglycosides and colistine, while intermediate for cephalosporin, was isolated from a dog. Serotype was 12, a serotype associated with a human XDR clonal-cluster typically found in intensive care units. Resistance levels ranged from 98% (temocillin) to 0% (ceftazidime, cefepim, amikacin, colistin). Genotyping did not show any animal specific cluster. All isolates were homogeneously scattered in the global *P.aeruginosa* population structure.

Conclusion: Those data show the presence of ABR among *P.aeruginosa* isolates, originating from domesticated as well as wild animals.

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Serotype prevalence and antibiotic resistance among adult invasive *Streptococcus pneumoniae* isolates in Turkey, 2005-2011

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Background: *Streptococcus pneumoniae* infections are major health problems because of the virulence of this bacteria and its ability to develop resistance. Surveillance systems are necessary to monitor the burden of pneumococcal disease, especially in the setting of pneumococcal vaccination programs. Aim of this study is to evaluate the serotype distribution and antimicrobial suscestibility of *Streptocccus pneumoniae* causing invasive pneumococcal disease in adults (>18) during the time period before the 13-valent conjugated pneumococcal vaccine introduce in Turkey.

Methods & Materials: *Streptocccus pneumoniae* strains were collected from 8 different centre between 2005 and 2011. All collected strains were frozen and kept at -80 C, in glycerol before used. Strains were identified by screening for alpha hemolysis, optochin susceptibility, sodium deoxycholate lysis, and latex tests to detect S. pneumoniae antigen. *S.pneumoniae* strains were studied for penicillin, cefotaxime, erythromycin and moxifloxacin susceptibilities by E-test (AB Biodisk, Sweden). Results were evaluated according to the CLSI standards and the strains isolated from CSF from others were seperated, for the interpretation of penicilin and cefotaxime. Serogrouping was performed with the latex particle agglutination and serotyping was made with the conventional Quellung reaction using commercial type-spesific antisera.

Results: In this study, 176 *Streptococcus pneumoniae* clinical isolates were tested for antimicrobial susceptibility and serotyping. These isolates were sampled from: blood cultures(n:109); cerebrospinal fluid(n:26); bronchoalveolar lavage(n:21) and the other sterile body fluids(n:20). Penicillin resistance in *S.pneumoniae* iso-