

Abstract Book 2020

European Congress of
Clinical Microbiology
and Infectious Diseases



30th

- 5341 Population structure dynamics of *Escherichia coli* ST131 over time**
G. Peirano* (Calgary, Canada), T. Lynch, R. Devinney, T. Finn, Y. Matsumura, J. Pitout
- 6705 Restriction modification systems affect the ability of *Escherichia coli* ST73 to acquire plasmids**
J. Alves Gama* (Tromsø, Norway), J. Kloos, P. Johnsen, D. Samuelsen
- 8075 SNP-based phylogeny revealing establishment of ciprofloxacin-resistant *Shigella sonnei* lineage in India**
D. M.S.* (Vellore, Tamil Nadu, India), A. Pragasam, K. Vasudevan, D. Murugan, S. Anandan, V. Balaji
- 9632 Measuring and mapping the burden of antimicrobial resistance in enteric infections**
C. Dolecek* (Oxford, United Kingdom), A. Browne, B. Kashef, E. Kumaran, C. Moore, P. Rao, G. Robles-Aguilar, S. Dunachie, M. Chipeta, S. Baker, A. Lopez, N. Day, S. Hay

Session accepted as Paper Poster Session

Antimicrobial resistance in urinary tract infections

- 911 High prevalence of antimicrobial resistance in community-acquired urinary tract infections in Harare, Zimbabwe**
I. Orlaru* (London, United Kingdom), M. Chisenga, R. Ferrand, S. Yeung, H. Hopkins, R. Stabler, P. Chonzi, J. Bradley, K. Kranzer
- 1278 Antimicrobial resistance and genotypic markers of trimethoprim resistance in *Escherichia coli* and *Klebsiella* spp. isolated from patients with urinary tract infections**
Y. Somorin* (Belfast, United Kingdom), N. Weir, M. Higgins, C. Hughes, D. Gilpin, M. Crockard, M. Tunney
- 1548 Comparison of antibiotic susceptibility of *Escherichia coli* between community-acquired and post-prostate biopsy acute bacterial prostatitis**
G. Song* (Chuncheon, South Korea), J. Lee, M. Park, S. Kwon, H. Choi, K. Kim, S. Bae
- 3173 Prevalence of antibiotic resistance among *Enterobacteriales* isolates recovered from urinary samples in France**
E. Farfour* (Suresnes, France), A. Si Larbi, N. Chatelain, L. Dortet, A. Poisson, T. Guillard, A. Mizrahi, D. Fournier, N. Degand, P. Morand, F. Janvier, V. Fihman, S. Corvec, L. Broutin, C. Le Brun, N. Yin, G. Hery-Arnaud, A. Grillon, E. Bille, H. Jean-Pierre, M. Amara, F. Jaureguy, C. Isnard, V. Cattoir, T. Diedrich, E. Flevin, A. Mérens, H. Jacquier
- 3319 Antimicrobial resistance in urinary tract infection cases submitted to a computerised decision support system for antibiotic prescribing in primary care in France**
T. Delory* (Paris, France), P. Jeanmougin, S. Lariven, F. Tubach, P. Boëlle, E. Bouvet, X. Lescure, J. Le Bel

- 4061 Urinary tract infections in children: antibiotic resistance of major pathogens in Western Attika, Greece (October 2014 to October 2019)**
P. Karakosta, E. Kalogeropoulou, A. Vasilakopoulou, E. Oikonomoula, P. Tsilikis, S. Damianidou, A. Tarpazi, A. Spiliopoulou, K. Tsekouras, S. Pournaras* (Athens, Greece)
- 4823 Resistance among urinary tract infection pathogens collected in Europe during 2018**
I. Critchley* (Cambridge, United States), N. Cotroneo, M. Pucci, A. Jain, R. Mendes
- 5684 Increase of *Escherichia coli* with reduced susceptibility to cefepime and OXA-1 compatible phenotype in urinary tract infections along the years**
S. Nabal Díaz, J. Bueno, P. Pilar, S. Mormeneo Bayo, B. Sanz, C. Guerrero, J. Garcia-Lechuz Moya, A. Rezusta, A. López-Calleja* (Zaragoza, Spain)
- 6554 Antimicrobial resistance among urinary *Enterobacteriaceae* from patient living in nursing homes**
S. Thibaut* (Nantes, France), T. Coeffic, D. Boutoille, G. Birgand, J. Caillon, P. Network
- 6871 *In vitro* susceptibility of carbapenem-resistant *Enterobacteriales* urinary isolates to nitroxoline and other oral urinary antibiotics**
A. Sonnevend* (Pécs, Hungary), A. Ghazawi, T. Pal
- 7433 Antimicrobial resistance among bacteria causing asymptomatic bacteriuria in pregnant women, rural Burkina Faso**
I. Guiraud, M. Peeters, A. Bonko, G. Zakaria, K. Ibrahima, A. Post, P. Lompo* (Ouagadougou, Burkina Faso), S. Ombelet, S. Diallo, J. Bognini, K. Berenger, Q. De Mast, A. Van Der Ven, H. Tinto, J. Jacobs
- 9434 Retrospective analysis of antibacterial resistance among uropathogen *Escherichia coli* in a veterinary teaching hospital (Italy, 2014-2019)**
P. Nebbia* (Turin, Italy), A. Bellato, A. Attili, M. Stella, F. Canavesi, P. Robino

Session accepted as Paper Poster Session

Antimicrobials against Gram-positive bacteria

- 1019 Activity of omadacycline and comparator agents against bacterial pathogens from the United States by infection type (2019)**
M. Huband* (North Liberty, United States), M. Pfaller, J. Streit, L. Duncan, R. Flamm
- 1043 *In vitro* surveillance of eravacycline against Gram-positive pathogens, including resistant isolates, collected from European hospitals in 2018**
S. Hwang, S. Hawser, I. Morrissey* (Monthey, Switzerland), F. Monti, E. Efimova, M. Olesky
- 1322 Resistance mechanisms associated with pleuromutilins among Gram-positive clinical isolates from the worldwide surveillance programme for lefamulin in 2018**
R. Mendes* (North Liberty, United States), T. Doyle, M. Castanheira, R. Flamm, S. Gelone, S. Paukner, H. Sader

Abstract 9434

Retrospective analysis of antibacterial resistance among uropathogen *Escherichia coli* in a veterinary teaching hospital (Italy, 2014-2019)

Patrizia Nebbia*¹, Alessandro Bellato¹, Anna-Rita Attili², Maria Cristina Stella¹, Francesca Canavesi¹, Patrizia Robino¹

¹University of Turin, Department of veterinary Sciences, Grugliasco (Turin), Italy, ²University of Camerino, school of biosciences, Camerino, Italy

Background: Urinary tract infections (UTIs) often require long follow-up periods and repeated antimicrobial therapies that can lead to the onset of antimicrobial-resistance. *Escherichia coli* is the most frequent bacterium involved in uncomplicated UTIs in pet animals in which treatment is sometimes threatened by the steady increase in the number of strains bearing concurrent resistance to various antimicrobial agents. The study aimed to report the variation of antibacterial resistance of urinary pathogen *E. coli* (UPEC) isolated from pets in a veterinary teaching hospital, North Italy (Turin) during a 5-and-a-half-year period (2014-2019).

Materials/methods: This retrospective study was carried out on *E. coli* strains (n= 219) collected from dogs (n=139) and cats (n=80) with UTI. Each strain was tested to 18 antibiotics belonging to 8 categories: aminoglycosides, carbapenems, folate pathway inhibitors, not-extended spectrum cephalosporins: 1st and 2nd generation, extended spectrum cephalosporins: 3rd and 4th generation, penicillins, penicillins + β -lactamase inhibitors, quinolones, following Kirby-Bauer method and interpreted according to the EUCAST guidelines. Isolates were classified as MDR (multidrug-resistant), XDR (MDR susceptible to only one or two antibiotic categories) and PDR (resistant to all agents tested). Data were analyzed using χ^2 test, Pearson's correlation among years and variance-weighted least-square regression models with STATA 15.1, choosing a significance level of $\alpha=0.05$.

Results: Out of 219 UPEC, 114 (52.05%) of them were MDR, of which 37 were XDR and 1 was PDR. Increasing resistance among years was seen for 4 out of 8 classes of antimicrobial agents. An overall increase in MDR proportion (coeff. = 0.074; 95CI 0.038-0.110), and in the number of concurrent resistances (coeff. = 0.297; 95CI 0.126-0.467) were assessed. A significative difference in the baseline level of resistances and the rising of them was observed between dogs and cats.

Conclusions: Approximately half of isolated strains were MDR (52.05%), but they came all from clinically ill patients, which might suggest that the prevalence in the general pet population is lower. Nevertheless the upward trend of antimicrobial resistance of UPEC to various antibiotics, the rise in the amount of concurrent resistances and the presence of XDRs and a PDR strain, poses serious public health issues.

Presenter email address: patrizia.nebbia@unito.it

