



**FOURTH INTERNATIONAL CONFERENCE ON
ANTIMICROBIAL AGENTS IN VETERINARY MEDICINE (AAVM)**

Prague, Czech Republic, August 24-28, 2008



PROGRAM AND ABSTRACTS

IN VITRO ANTIBIOTIC-SUSCEPTIBILITY OF LISTERIA MONOCYTOGENES FROM FISH AND FISH-PROCESSING ENVIRONMENTS

A. Vergara¹, D. Paludi¹, A.R. Festino¹, M. Conter², V. D'Orio¹,
C. Costanzo¹, P. Di Ciccio¹, A. Ianieri²

¹University of Teramo, Teramo, Italy, ²University of Parma, Parma, Italy

Five hundred and forty two food and environmental samples were analysed for the presence of *Listeria monocytogenes*. Sixtyone strains were isolated, forty four from fish and seventeen from fish-processing environments. The objective of this study was to evaluate the susceptibility of the isolated strains to 22 antibiotics (amikacin, amoxicillin, ampicillin, cefalotin, clindamycin, chloramphenicol, erythromycin, enrofloxacin, flumequine, gentamicin, kanamycin, lincomycin, oxacillin, penicillin, rifampicin, spiramycin, streptomycin, sulphafurazole, trimethoprim-sulphamethoxazole, tetracycline, tobramycin and vancomycin) currently used in veterinary and human therapy. Susceptibility tests were performed by an agar plate antibiotic disk diffusion method according to CLSI guidelines. The majority of strains were resistant to oxacillin, lincomycin, flumequine, and clindamycin, regardless of source. Moreover, 1.6% of isolated strains was resistant to gentamicin, 3.3% to tetracycline, 3.1% to chloramphenicol, and 44.3% to sulphafurazole. Susceptibility to the other antibiotics was 100%. Sulphafurazole resulted significantly more active against environmental isolates than to fish-isolates (76.5% vs. 47.7%, respectively; $P < 0.01$). Conversely, chloramphenicol resulted more active against fish isolates than to environmental ones (90.9% vs. 76.5%, respectively; $P < 0.01$). This study shows that *L. monocytogenes* strains from food and food-environments are susceptible to the antibiotics commonly used in veterinary and human listeriosis treatment. Considering that this pathogen is slowly becoming antibiotic resistant by acquisition of known antibiotic resistance genes from gram-positive bacteria, a continued surveillance of emerging antimicrobial resistance among *L. monocytogenes* is important to ensure effective treatment of human listeriosis. The findings of this study can provide useful information for the development of food safety policy in the use of antimicrobials.