Antibiotic resistance does not respect geographical or biological borders. Thus, the use of antibiotics in one sector, setting or country affects the spread of resistance in others. Resistance to antibiotics is also a food safety concern considering the use of antibiotic in food animals, for treatment, disease prevention or growth promotion, thus allowing resistant bacteria and resistant genes to pass through the food chain from food animals to humans. Many countries have implemented prudent antibiotic use policies and surveillance systems both in clinical and veterinary settings, there are no such systems in Albania and little is known about the levels of antibiotic-resistant bacteria in food animals within the country. A total of 986 poultry samples were taken from different poultry breeding complexes of Albania over a 4-years period and were tested for the presence of Enterobacteriaceae. A total of 284 bacterial isolates were obtained and were characterised by species (Escherichia coli and Salmonella spp.) and by susceptibility to 14 antibiotics. Resistance rates of E. coli and Salmonella isolates were, respectively: amoxicillin (71%, 48%); enrofloksacina (65%, 42%); chloramphenicol (74%, 46%); gentamicin (62%, 79%); colistin sulfat (42.4%, 62.6%); neomicina (57%, 61%); enrofloxacin (65%, 42%); nalidixic acid (91%, 73%); sulphonamides (91%, 73%); tetracycline (82%, 51%); trimethoprim (73%, 77%); streptomycin (70%, 55%); doxyciclinà (76%, 54%) and; oxytetracyclina (83%, 49%). Multidrug resistance to at least four antibiotics was observed in 95% of E. coli isolates and 82% of Salmonella. In conclusion, these data indicate that Salmonella and E. coli isolates from Albanian farms exhibit high to extremely high levels of antibiotic resistance; Salmonella and E. coli isolates exhibit resistance to multiple antibiotics and multidrug resistance profiles among Enterobacteriaceae are geographically widespread. Implementation of prudent antibiotic use policies in food animals and related surveillance will be necessary to reduce the emergence, spread and establishment of highly resistant strains across poultry farms in Albania.

Speaker Biography

Molla L is working at Public Health Institute, Tirana as a Food and Technology Faculty in Medical University of Tirana, Albania.

Notes:

Molla L, Arch Clin Microbiol, 8:5
DOI: 10.4172/1989-8436-C1-002