# Prevalence and antimicrobial resistance profile of avian pathogenic Escherichia coli isolated from Brazilian poultry

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Avian pathogenic Escherichia coli (APEC) is the pathogen that causes colibacillosis, a disease that can have localized or systemic manifestations. For this reason, colibacillosis is one of the main diseases that lead to economic losses through morbidity, mortality, and carcasses condemnation. Along with this is the current problem of antimicrobial resistance and the emergence of multidrug-resistant bacteria that threaten the safety of the food chain. This study aimed to investigate the prevalence of avian pathogenic E. coli in femurs obtained from necropsied chickens in farms distributed throughout Brazil, as well as to evaluate the antimicrobial resistance profile of characteristic colonies of E. coli isolated from the femurs. Samples were collected between August and November 2021, from 100 batches of broilers, from the states of Paraná, Santa Catarina, Rio Grande do Sul, São Paulo, Minas Gerais, and Ceará. For each batch, three femurs were collected, their bone marrow was swabbed and cultured on MacConkey Agar. In the state of Paraná, the results point to a positivity of 70%, Santa Catarina presented 40%, Rio Grande do Sul presented 60%, São Paulo presented 90%, Minas Gerais presented 100% and Ceará presented 50% of positivity. Based on these results, the batches that showed growth of typical colonies of E. coli in femur were selected for antibiogram, by the method of diffusion with discs, with the antibiotics Ampicillin, Azithromycin, Ceftiofur, Ceftriaxone, Enrofloxacin, Gentamicin, Nalidixic Acid, Nitrofurantoin, Norfloxacin, and Sulfazotrim. The diameters obtained were compared with the breakpoints established by the Clinical and Laboratory Standards Institute (CLSI). The resistance indices found were Ampicillin (66.1%), Azithromycin (9.2%), Ceftriaxone (44.6%), Ceftiofur (44.6%), Enrofloxacin (38.4%), Gentamicin (29.2%), Nalidixic Acid (69.2%), Nitrofurantoin (9.2%), Norfloxacin (13.8%) and Sulfazotrim (44.6%). The results obtained in the study show a high prevalence of APEC distributed in different states of Brazil, as well as resistance patterns of the isolates to different classes of antimicrobials. Suggestions that studies can guide management and choices of antimicrobials for sanitary control purposes in clinical cases of colibacillosis.