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Abstract

Fluoroquinolone presence in poultry food, breast muscle, and eggs in the Sucre state, and their impact on the intestinal microbiota

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Abstract:

The purpose of this investigation was to detect fluoroquinolone residues in chicken feed, chickens for human consumption and eggs. In Muëller-Hinton agar, the antibacterial activity of antibiotic residues was demonstrated, by observing inhibition halos in the control strain Staphylococcus aureus ATCC 29213 except in whole eggs and yolks. With Fourier transform infrared spectroscopy, the spectra of the antibiotic residues in the samples were seen and quantified. Of the starter foods, the one with the highest concentration was number 5 (54.21 mg/g) and among the fattening foods, number 3 (80.77 mg/g). The concentration of the feed for laying hens was higher than the feed consumed by chickens (83.09 mg/g). National and Brazilian chickens were analyzed; domestic chickens have a higher concentration of enrofloxacin residues (52.01 mg/g), than Brazilian chickens (25.38 mg/g). Regarding the eggs, the yolk was where there was the highest concentration of residues (39.68 mg/g). The impact of consumption of fluoroquinolone residues by living beings was demonstrated by determining the susceptibility profile to fluoroquinolones in bacteria isolated from the commensal microbiota of chickens fed starter and broiler; 100% of the bacteria isolated have high levels of resistance to ciprofloxacin. Fluoroquinolones should not be administered as growth promoters, as they are life-saving antibiotics for patients with severe infections. In conclusion, the food chain is the main vehicle for the consumption of high concentrations of antibiotics.

Biography:

Dr. Lorena Abadia-Patino studied Bioanalysis at the Orient University, Venezuela and graduated in 1997. In 1999, she got a Microbiology Master at Denis Diderot University and her work at Pasteur Institute under the direction of Patrice Courvalin. She got her Ph. D in 2003; returned to Venezuela and joined the research group of Biomedicine department at IIBCAUDO, created the Bacterial Resistance Laboratory. At present, she has the position of an Associated Professor at the UDO. She has published several papers, chapters and books. Associated editor of The Journal of Infection in Developing Countries.

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