TITLE: RESISTANCE TO CEFALOSPORINS, QUINOLONES AND CARBAPENEMICS AMONG THE TEN SEROVARS *SALMONELLA* SPP PREVALENTS BETWEEN 2015 AND 2018.

AUTHORS: SILVA, G.A[1].; IASBIK, L. L. F[1].; AMPARO, L. F. V[1].; PRIBUL, B. R[1].; ARAUJO, M.S[1].; RODRIGUES, D.P[1].

INSTITUTION: [1]FUNDAÇÃO OSWALDO CRUZ, (AV. BRASIL, 4365 - MANGUINHOS, RIO DE JANEIRO – RJ, Brazil)

ABSTRACT:
Salmonella spp. is known as important microorganism in foodborne disease that determine infections transmitted by food consumption predominantly transmitted through food production animals. Those microorganisms are among the leading bacterial pathogens isolated from patients with diarrhea in both developed and developing countries.

Salmonella isolated from humans and animals with reduced ciprofloxacin and cephalosporins 3rd/4rd generation susceptibility and multidrug-resistance profiles have been rapidly emerging in recent years in the world, with considerably high reported prevalence. This study aimed among the total strains received between 2015 and 2018 by the National Reference Laboratory to identification the serovar select a number of strains alleatory and submitted to the Antimicrobial Susceptibility Test, employing 12 drugs from seven classes, CLSI. From the 7,244 strains, 14,7% were resistant at least one and 40,2% two classes. Regarding the single antimicrobial resistance, the highest rate (12,7%) was observed with Nalidixic Acid and 11% and 11,3% to Tetracycline and Ampicillin respectively, and 8,2 % of the isolates were resistant to Imipenem. Resistance rates to the aminoglycosides were about 13,6%. While the resistance rates to ciprofloxacin were 9,2% to date, only a few isolates (8,5%) with resistance to one of the tested third generation cephalosporins have been observed.

Between the different origins and serovars, there were significant differences in the resistance to the tested antimicrobial agents. In addition, the different serovars were submitted with varying frequency in the respective categories of origin, therefore these factors influence the level of resistance significantly in the various sources of origin.

In general, isolates from animals and food showed higher resistance rates to most of the antimicrobial substances than those from the environment and feeding stuffs.

Percentages of multiresistance were observed for serovars S.Heidelberg (47.7%), S.Typhimurium (28.2%), S.Infantis and S.Minnesota(4.5%).

The results demonstrate the importance of monitoring these microorganisms in a continuous way as a subsidy for the strengthening of integrated surveillance actions for the prevention and control of salmonellosis in our country.

Keywords: foodborne disease, antimicrobial resistance, serovars.