**Isolation and drug resistance profile of Enterobacteriaceae from chicken meat samples in Dibrugarh, Assam, India**

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**Abstract**

Chicken meat is very nutritious, a significant source of animal protein and very affordable; hence, the demand for chicken has been rising dramatically, leading to large-scale farming. One of the limiting factors to this food and income source is the poultry diseases caused by bacteria pathogens. To curb this and to increase production, antimicrobial agents have been deployed. The massive consumption of antimicrobial agents and their overuse in this industry has led to a surge in antimicrobial resistance even in the common pathogens.

**Aim**: This study aimed to isolate and determine antibiotic resistance of Enterobacteriaceae members from chicken meat samples collected from farms and retail shops around Dibrugarh Town, Assam, India.

**Methods**: A total of 230 chicken meat samples were purchased, put in a sterile container, and transported to the university laboratory for further processing maintaining the cold chain. 810 bacteria were isolated and cultured, out of which 363 were identified as Gram-negative Enterobacteriaceae members using morphological characteristics, Gram staining, and Biochemical tests. 17 Antibiotics were deployed to investigate antibacterial resistance including **Ampicillin (AMP), Cefepime (CPM), Cefotaxime (CTX), Ceftazidime (CTZ), Aztreonam (AT), Polymyxin-B (PB), Vancomycin (VA), Gentamicin (GEN), Tetracycline (TE), Doxycycline Hydrochloride (DO), Erythromycin (E), Azithromycin (AZM), Nalidixic acid (NA),  Ciprofloxacin (CIP), Co-trimoxazole (COT), Sulfisoxazole (SF),** and **Rifampicin (RIF)**.

**Results**: The study shows *E. coli*, *Shigella* spp. *Proteus* spp. *Klebsiella* spp, and *Enterobacter* Sp. were most frequent. Most of the isolated species showed multidrug resistance with *E. coli, Klebsiella* spp. leads the isolates.

**Conclusion:** Many Enterobacteriaceae members were isolated from the chicken meat samples collected from all farms and retail shops, with many isolates revealing multidrug resistance. This shows how chicken meat is contaminated with dangerous microbes, which can cause severe sickness which would be difficult to treat. Proper handling should be followed, and chicken meat should be cooked properly.

**Keywords:** Chicken meat, Enterobacteriaceae, Antibiotic resistance