

**TITLE:** PREVALENCE OF *ESCHERICHIA COLI* ISOLATES PRODUCERS OF ESBL FROM AVIAN CELLULITIS LESIONS

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**ABSTRACT:**

Avian pathogenic *Escherichia coli* (APEC) is responsible for extraintestinal infections in birds. Cellulitis is one of the most prevalent infections caused by APEC and refers to fibrinonecrotic inflammation in the subcutaneous tissue especially in the thighs and abdomen region. The production of extended spectrum  $\beta$ -lactamases (ESBLs) is the major mechanism of antimicrobial emergence resistance. These enzymes have the property of hydrolyzing the beta-lactam ring of penicillins, cephalosporins and monobactams. The objective of this study was to determine the presence of *E. coli* ESBL-producers from avian cellulitis lesions. In order to proceed with the experiment, 42 swabs of cellulitis lesions were collected from broiler chicken carcasses at a slaughterhouse in the northern Parana state region. The material was processed in the Laboratory of Avian Medicine of Londrina State University. After bacterial isolation, biochemical tests were used to confirm *Escherichia coli*: Triple Sugar Iron Agar (TSI), lysine iron agar, Simmons' citrate, urease, indole. *E. coli* isolates (20) were evaluated. The ESBL production was determined by performing the disk approximation method, which used the following antimicrobial agents: Amoxicillin + Clavulanate (AMC), Ceftazidime (CAZ), Cefotaxime (CTX), Ceftriaxone (CRO). The Cephalosporin discs were distributed 20 mm apart from the AMC discs in order to observe the occurrence of synergism among the antimicrobials, which indicates the production of ESBL. It was observed by the disk approximation test that 12/20 (60%) of the samples tested were producers of extended spectrum B-lactamases, evidencing a high phenotype frequency in the isolates evaluate. Furthermore, to the best of our knowledge, this is the first description of APEC ESBL positive isolated from avian cellulitis lesions.

**Keywords:** APEC, ESBL, poultry, antimicrobial resistance, cellulitis