

Abstract:

Escherichia coli is a natural flora of the alimentary tract of birds and is one of the most common pathogens in poultry that causes Colibacillosis. It is also a bacterial pathogen in humans, especially in immunodeficiency patients. Extended-spectrum beta-lactamases (ESBLs) are widely used to treat infections caused by this microorganism. Most ESBLs can be divided into three groups of SHV, TEM, and CTX-M, based on the similarity of the amino acid sequence, respectively, coded by *bla_{SHV}*, *bla_{TEM}* and *bla_{CTX-M}* genes. Regarding the development of antibiotics resistance and harmful effects of resistant bacteria on beta-lactam antibiotics, they can have an effect on human health and animal health, and due to the high mortality rate of disease, Reducing production, as well as damage caused by drug use, it's very important to control and prevention this disease. In the present study, 50 isolates of *Escherichia coli* were collected from 60 cloacal swabs from broiler chickens between 7 to 21 days old in Zabol city. Antibigram test was performed by disk diffusion method to investigate drug resistance to Ceftriaxon, Cefazolin, Ceftizoxime, Cephalothin, Ceftazidime and Cefixime, which was the highest resistance to Cefazolin and the least resistance to Ceftriaxon. The frequency of two *bla_{SHV}* and *bla_{OXA}* genes was evaluated by PCR method. The results showed that the frequency of *bla_{SHV}* and *bla_{OXA}* gene in the isolates was 24% for *bla_{SHV}* and 0% for *bla_{OXA}*.

Keywords: *Escherichia coli*, Extended-spectrum beta-lactamase(ESBLs), *bla_{SHV}*, *bla_{OXA}*, PCR



University of Zabol

Graduate school

Faculty of Veterinary

Department of Clinical science

**The Thesis Submitted for the Degree of D.V.M (In the Field of Veterinary
Medicine)**

**Drug resistance and prevalence of *bla_{SHV}* and *bla_{OXA}* gens of
Escherichia coli isolated from broilers**

**Supervisor:
Dr. M. Jahantigh**

**Advisors:
Dr. A. Rashki
Dr. S. Salari**

**By:
Hossein Noori**

June 2018