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**Abstract:**

***Enterococcus cecorum* as an emerging pathogen causing skeletal disease in broilers**

One of the members of the enterococcal microbiota in the gastrointestinal tract of poultry is *Enterococcus cecorum EC.* It lives as facultative anaerobic gram-positive cocci. *EC* has emerged as a major health concern with a high economic impact on the poultry industry. Over the past few years, it has been reported to be directly involved in the skeletal disease of broilers and broiler breeder chickens (Broast et al., 2017; Jackson et al., 2004; Jung et al., 2017). It causes enterococcal spondylitis, infection of the free thoracic vertebra causing compression of the spinal cord leading to hind limb paresis with variable severity and clinical signs such as lameness and arching of the back, birds sitting down on hocks, paralysis, and death (de Herdt et al., 2008; Martin et al., 2011; Jung and Rautenschlein, 2014). EC may also need certain factors such as a leaky gut to translocate to blood and spread systemically. Though with this much-advanced technology, very little is known about its pathogenesis and comparison in virulence of both pathogenic clones and commensal strains. Here, we sequence and analyze 20 pathogenic field strains isolated from different parts of chicken. These strains were isolated from different outbreaks caused in 2011-2022 and acquired from the microbial collection of Poulpharm. These strains were identified through MALDI-TOF MS analysis and 16S rRNA sequencing. The pathogenic strains were also checked through Mannitol metabolism. The genomes were sent for whole genome sequencing as well. The whole genome analysis will also be compared with the Embryo lethality assay which will be performed with these strains to analyze the potential pathogenic genes which help these strains to escape the immune system and cause infection.

Keywords: *Enterococcus cecorum*, Poultry, Immune system.