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## Experimental infection of Galleria mellonella larvae with Campylobacter spp. Isolated from Chickens: An Alternative Animal Model to Determine Antimicrobial Efficacy

## ROJAS MONTES A.<sup>1</sup>, ARROYO J.<sup>2</sup>, JUSTIL H.<sup>2</sup>, AGUILAR E.<sup>3</sup>, ENCISO E.<sup>3</sup>, TINCO J.<sup>3</sup>, ROJAS MONTES M.<sup>4</sup>, LAZARO C.<sup>1</sup>

<sup>1</sup> Laboratorio de Farmacología y Toxicología Veterinaria, Facultad de Medicina Veterinaria, Universidad Nacional Mayor de San Marcos, Lima, Peru; <sup>2</sup> Laboratorio de Farmacología, Facultad de Medicina, Universidad Nacional Mayor de San Marcos, Lima, Peru; <sup>3</sup> Departamento Académico de Medicina Humana, Facultad de Ciencias de la Salud, Universidad Nacional de San Cristóbal de Huamanga, Ayacucho, Peru; <sup>4</sup> Laboratorio de Inmunología y Virología Veterinaria, Facultad de Medicina Veterinaria, Universidad Nacional Mayor de San Marcos, Lima, Peru

**Introduction:** Campylobacter spp. is the world's leading cause of gastrointestinal disorders in humans. These bacteria are associated with consuming contaminated poultry products since Campylobacter is considered a commensal microorganism in the gut of broilers. In Peru, chickens from traditional markets showed Campylobacter coli (97.5%) with tetracyclines and macrolides resistance. For this reason, the need to evaluate antibiotics in vitro and in vivo has increased; it is in the latter that complications arise due to ethical and economic issues. Alternative animal models such as the Galleria mellonella larval (GML) are being used in investigations of antibacterial efficacy in pathogens for their easy implementation, low cost, and not require authorization from ethics committees. Our objective is to determine if it is possible to carry out the experimental infection of the GML with strains of C. coli isolated from carcass chickens from markets in Lima, Peru. **Methods:** C. coli strains (five from chicken samples and one ATCC-33559) were reactivated in tubes with Preston blood broth (5%) at 37°C/24 hin microaerophile, centrifuged at 1000g/5 min, and the pellet was washed three times with PBS. An initial inoculum of approximately 10? CFU/mL (OD600) was serially diluted to obtain eight 10-fold dilutions. GML (n=1000) with 250-300mg weight, 2-3 cm long, and creamy white coloration were selected. After disinfection, the inoculum (10 μL) was placed between the last left pro-legs. Control groups (without inoculum, needle trauma, and PBS) and challenged groups (108 – 101 CFU/mL) for each C. coli strain were considered. Larvae were kept without food in Petri dishes at 37°C/4 days, evaluating mortality, survival, and appearance (leg movement, return to ventral decubitus position, cocoon formation, color change). Each group had ten larvae, and all groups repeated twice. **Results:** The results showed that groups without inoculum, PBS, Trauma, and the inoculum of 101 and 102 CFU/mL did not present mortality throughout the

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