

Antibiotic susceptibility of *Escherichia coli* isolated from a case of neonatal diarrhea in an alpaca cria

Gastroenterologia

laura.filippone@unimi.it

Laura Filippone Pavesi (1), Guido Grilli (1), Tiziana Vitiello (1), Maria Filippa Addis (1), Martina Penati 1, Luca Villa (1), Giulia Sala (2), Antonio Boccardo (1), Vincenzo Ferrulli (1), Davide Pravettoni (1), Valerio Bronzo (1)

South American camelids, such as llamas and alpacas, are becoming increasingly common in Italy. Most of them are bred as pets, resulting in high human-animal contact. Diarrhea is a significant disease in newborn camelids, and its aetiology play a crucial role. This study aimed to investigate the presence of possible antibiotic resistance in an alpaca cria with neonatal diarrhea [1]. The cria was admitted with mild dehydration and diarrhea, detected by the owner the previous day. After a complete clinical examination, the cria was stabilized with intravenous fluid therapy, NSAIDs, and supplementation of minerals and vitamins. Two fecal samples were collected and processed in the VTH microbiology and parasitology laboratories. To isolate bacteria, a fecal sample was inoculated onto 5% sheep blood agar plates and MacConkey agar plates and incubated at 37°C for 24-48 h under aerobic and anaerobic conditions. Species identification was performed by matrix-assisted laser desorption mass spectrometry (MALDI-TOF; Bruker Daltonics, Fremont, CA) using the direct transfer method. The isolate was subjected to antimicrobial susceptibility testing (AST) by the disk diffusion method according to the Clinical and Laboratory Standards Institute (CLSI) guidelines [2]. The following antimicrobials were tested: amoxicillin/clavulanic acid (30µg), ampicillin (10µg), ceftiofur (30µg), enrofloxacin (5µg); oxytetracycline (30µg), penicillin (10iu) marbofloxacin (5µg), florfenicol (30µg), trimethoprim/sulfamethoxazole (25µg). Antibiotic susceptibility of the isolates was classified by measuring the zone of inhibition according to CLSI guidelines [3]. Quantitative coprological examination was performed using FLOTAC Dual Technique; flotation solutions of saturated sodium chloride (specific gravity 1200) and zinc sulfate (specific gravity 1.350), recommended for the detection of nematodes, cestodes, and trematodes eggs, nematodes larvae, and coccidian oocysts, were used [4]. No parasite was detected. *Escherichia coli* was isolated and found to be resistant to ampicillin, florfenicol, oxytetracycline, and penicillin. The other antibiotics tested were found to be sensitive. According to CSLI guidelines [3], there is no inherent resistance of *E. coli*, so the resistances detected in this sample were all acquired. These results show that some resistance may be already present in alpacas and further epidemiological investigation must be performed to assess the antimicrobial resistance in South American camelids in Italy.

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