

TITLE: IDENTIFICATION OF *cdt* GENES IN *Campylobacter jejuni* STRAINS ISOLATED FROM SHEEP FAECES

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ABSTRACT: Campylobacteriosis is a zoonosis of worldwide distribution, which causes gastroenteritis in humans and can progress to neurological problems. *Campylobacter* spp. Colonizes the gastrointestinal tract of several domestic species, especially those destined for human consumption, in the ovine species besides gastroenteritis is also an important cause of abortion, stillbirth and birth of weak offspring. One of the most important virulence factors of *Campylobacter jejuni* is the distant cytolethal toxin (CDT) that is encoded by the *cdtA*, *cdtB* and *cdtC* genes. The toxin acts by blocking the cell cycle, causing distention and death of the cells and leading to the development of diarrhea. The objective of this study was to identify the presence of *cdt* genes in *Campylobacter jejuni* strains isolated from sheep faeces. A total of 421 faecal samples collected from sheep from 20 herds were analyzed. Of these samples, 11 were positive for *Campylobacter jejuni* and had their DNA extracted from the kit "Qiagen DNA Easy Blood and Tissues". To detect the virulence genes *cdtA*, *cdtB* and *cdtC* the polymerase chain reaction (PCR) was performed. As positive control of the reactions was used lineage of *Campylobacter jejuni* provided by the Oswaldo Cruz Foundation and as a negative control was used ultrapure water. The amplified products were identified in agarose gel electrophoresis (1.5%), stained with Blue Green and visualized with UV light. The results revealed that all the isolates of *Campylobacter jejuni* had the three *cdt* genes (*cdtABC*). This result is very worrying, since it demonstrates the great pathogenic potential of the isolates. It is recommended to adopt preventive measures in the animal husbandry system, such as the use of boots by rural producers, frequent cleaning of facilities and monitoring of the health status of the herd. A strict control of the slaughter of the animals is also necessary so that there is no contamination of the carcass with the fecal material and consequent danger to public health.

Keywords: *Campylobacter*, Campylobacteriosis, molecular diagnosis, sheep

Development Agency: Fundação de Amparo a Ciência e Tecnologia de Pernambuco