Prevalence of putative adhesins in enteropathogenic (EPEC) and enterohaemorrhagic (EHEC) *Escherichia coli* of serogroup O26 isolated from humans and cattle

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Enterohaemorragic *Escherichia coli* (EHEC) strains are responsible for food poisoning in humans in developed countries via consumption of vegetal and animal foodstuffs contaminated by ruminant faeces. The clinical conditions vary from undifferentiated diarrhoea to haemorrhagic colitis with, in 10 % of the cases, renal sequelae (Haemolytic Uraemic Syndrome, HUS) that can lead to death. Some EHEC strains belonging to O26, O111, O118 serogroups f.i. are also responsible for undifferentiated diarrhoea in young calves up to 3 months of age. The consequences are economic losses due to delay of growth and weakness of calves.

Pathogenicity is divided in three stages: (1) colonisation of intestine by specific adhesins, (2) translocation of a signal into the entrerocyte by the bacteria that causes cytoskeleton rearrangement within and (3) intimate adhesion of bacteria to eukaryote cells by specific adhesins, the intimins. Factors implicated in host specificity have been identified for enteropathogenic *Escherichia coli* strains (EPEC), but not for enterohemorragic *Escherichia coli* strains (EHEC). Such factors could be based on proteins intervening in colonisation stage (adhesins for example).

The aim of this study is to establish using specific PCR the prevalence, in bovine and human EPEC and EHEC O26 strains, of 25 putative adhesins previously described in EHEC and 4 fimbrial and afimbrial adhesins associated with bovine necrotoxigenic *E.coli* (NTEC). These adhesins could be at the basis of host specificity of O26 strains. The presence of the genes was correlated to, in one hand, the source of isolation and, in the other hand, EHEC/EPEC-associated virulence factors (*eaeA, stx1, stx2* and *hlyA* genes).

According to the results, no difference exists between bovine and human strains for these 29 putative adhesins. Nevertheless, several strains are positive for some adhesins that have not been described so far in O26 EPEC/EHEC strains. Therefore, such strains should be studied more in details. This is the first time that the distribution of putative adhesins is described in a large collection of EPEC/EHEC O26 strains (77 strains).