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A RETROSPECTIVE STUDY OF INFECTIOUS AGENTS ISOLATED IN CASES OF DIARRHEA IN SUCKLING PIGLETS IN SPAIN

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Objective

The aim of this study was to determine prevalence of *E.coli*, *C.perfringens* and Rotavirus strains isolated in pre-weaning diarrhea cases in Spain, and to compare them to historical results.

Material and Methods

From 2015 to 2017, 164 samples of fresh feces from suckling-piglets suffering diarrhea were processed at the Laboratori Veterinari de Diagnosi de Malalties Infeccioses (UAB). *E.coli* isolation and typing was done on all samples with a PCR for the fimbriae K88ab (F4ab), K88ac (F4ac), K99 (F5), 987P (F6), F41, F18 and EAE and the toxins Sta, STb, LT, EAST1, VT1 and VT2. Samples were also tested against *C.perfringens* (n=131) and if positive, PCR typing of toxins was done (α , β , β_2 and ϵ). Rotavirus-type A was tested with an ELISA or PCR (n=127). Results were compared to the ones obtained in the same laboratory between 2009 and 2012.

Results

K88ab and K88ac were found in 12% and 12.2% of the isolates respectively. K99 and 987P were not found and F18 in only 4.3%. F41 was found in 18.3%, and the most common fimbriae were EAE (36.6%). The most prevalent toxin was EAST1 (81.7%), followed by STb (31.1%), STa (23.2%), LT (11%), VT2 (1.8%) and VT1 (1.2%). Rotavirus was found in 34.7% of the samples, with increasing prevalence in 2017. Only one sample was positive for β -toxin of *C.perfringens*, and none for ϵ -toxin, whilst 77.1% were positive for α -toxin and 37.4% for β_2 .

Discussion

EAE and EAST1 were still the most common fimbriae and toxin, although their pathological relevance is not clear. The prevalence of F41 increased 7%. But the highest increase was for K88ab and K88ac, which tripled in prevalence, even in *E.coli* vaccinated farms, suggesting the importance of needing high colostral antibodies level. Rotavirus-A also increased, supporting its potential importance in the etiology of suckling-piglets diarrhea.