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## ROLE OF *HELICOBACTER SUIS* AND *FUSOBACTERIUM GASTROSUIS* IN THE PATHOGENESIS OF GASTRIC ULCERATION IN PIGS

C. De Witte, R. Ducatelle, F. Haesebrouck.

*Department of Pathology, Bacteriology and Avian Diseases, Faculty of Veterinary Medicine, Ghent University, Merelbeke, Belgium.*

*Helicobacter suis* is a zoonotic, Gram-negative bacterium, that has been shown to cause gastritis and a reduction in daily weight gain in naturally and experimentally infected pigs. Several studies also attribute a role to this pathogen in the development of hyperkeratosis and ulceration of the non-glandular stratified squamous epithelium of the *Pars oesophagea* of the porcine stomach, although *H. suis* does not colonize this region. It is not completely clear how exactly *H. suis* influences ulcer development, but our recent studies indicate that alterations in gastric acid secretion may be involved. This may affect the composition of the *Pars oesophageal* microbiota. Compared to non-infected, 6-8 months old pigs with no obvious lesions, higher numbers of a recently described *Fusobacterium* species, designated *F. gastrosuis,* were detected in the *Pars oesophagea* of *H. suis*-infected pigs of the same age group with hyperkeratosis and erosions of the *Pars oesophagea* and downregulated markers for gastric acid secretion. The genome of *F. gastrosuis* showed presence of genes encoding proteins similar to proteins that play a role in the pathogenesis of infections with other *Fusobacterium* spp. and *F. gastrosuis* lysate induced necrosis in gastric cell lines. In *H. suis*-infected adult sows, severe lesions were highly present in the *Pars oesophagea* and markers for acid secretion were upregulated.

We hypothesize that a decreased gastric acid secretion during the more acute phase of a *H. suis* infection (6-8 months old pigs) may allow higher numbers of *F. gastrosuis,* which may affect development of lesions. Increased production of gastric acid during the chronic phase of infection (adult sows) might then further aggravate severity of lesions.