

4 months and 6 years, respectively, and showed regular inter-estrous intervals.

These preliminary results suggest that cortisone treatment may suppress the estrous cycle in bitches even at reduced dosages and in prepubertal dogs. This tends to apply especially when treatment extends over several months, although individual exceptions may occur. To emphasise if shorter treatment periods don't result in cycle alterations and if estrous suppression remains after the end of treatment further research with more dogs is needed.

References:

- 1) Whirlledge and Cidlowski, Trends Endocrinol Metab 2017; 28(6):399–415.
- 2) Castinetti and Brue, Ann Endocrinol 2022;83(3):188–190.
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6466/7931 | Early dynamics of the gut microbiota in golden retriever puppies during the first 12h of life: A preliminary study

I. Bendahmane¹; M. Rotter¹; A. Meynadier²; H. Mila¹

¹NeoCare, Université de Toulouse, ENVT, Toulouse, France;

²GenPhySE, Université de Toulouse, INRAE, ENVT, Castanet Tolosan, France

The early hours of life represent a critical period for the dynamic development of the gut microbiota (GM). At birth, the newborn's intestinal tract contains oxygen, creating an environment that favours the initial colonisation by aerobic bacteria. This early colonisation is essential, as these bacteria consume the available oxygen, facilitating the establishment of facultative and strict anaerobic bacteria later on (1). Despite the fundamental importance of this process, its detailed progression remains poorly understood and understudied in dogs and other mammals.

In this preliminary study, we aimed to assess the evolution of the gut microbiota in Golden Retriever puppies during the first 12 h of life. The study included 14 healthy puppies born vaginally from 3 dams. Rectal swabs were collected at birth (H0) and at 4 (H4), 8 (H8) and 12 h (H12). Bacterial DNA was extracted, amplified (V3-V4 regions of 16S rRNA), and sequenced (Illumina MiSeq). Taxonomic affiliation used the 16S SILVA database (version 138.1 PINTAIL 100). Statistical analysis (ANCOM) evaluated changes in taxa at H4, H8 and H12 relative to H0, with p-values adjusted using the Holm method.

Four phyla were identified in the 56 collected faecal samples: Bacteroidetes, Firmicutes, Proteobacteria, and Actinobacteria. Altogether, 33 taxa were present at the family level, and 45 at the genus level. Between H0 and H12, a significant increase was observed in the abundances in 6 of those taxa ($p < 0.05$ for all comparisons; Figure 1). Among them, Pasteurellaceae (0% at H0, $16 \pm 29\%$ at H12), and specifically Haemophilus (1% at H0, $2 \pm 3\%$ at H12) and Frederiksenia (0% at H0, $3.31 \pm 8\%$ at H12) were facultative anaerobes. Whereas, Clostridiaceae (0% at H0; $16 \pm 29\%$ at H12) and mainly Clostridium sensu stricto 1 (0% at H0, $13 \pm 29\%$ at H12), and Peptostreptococcaceae ($1 \pm 2\%$ at H0, $12 \pm 25\%$ at H12) and mainly Terrisporobacter (0% at H0, $3 \pm 7\%$ at H12) and Romboutsia, (0% at H0, $8 \pm 18\%$ at H12) were strict anaerobes.

The results confirm the rapid shift in GM during the first hours after birth, from an oxygen-rich to oxygen-poor environment,

favouring colonisation by strict anaerobes and facultative anaerobes. These findings emphasise the importance of these early dynamics in facilitating the transition to a more mature microbiota. Further studies with larger sample sizes and longer follow-up periods are needed to fully understand the functional implications of these microbial changes in the development of gastrointestinal dysbiosis, being most probably responsible for numerous chronic conditions in adulthood.

References:

- 1) Garrigues et al., Scientific Reports 2023; 13:14717.

7085 | In utero parvovirus infection of an entire dog litter

A. Bertero; F.E. Scaglione; C. Ottino; A. Rota

Department of Veterinary Sciences, University of Turin, Turin, Italy

Canine parvovirus (CPV) is still a leading infectious cause of canine mortality and weaning puppies are particularly at risk as maternally derived antibodies (ab) can block active immunisation (1). Early neonatal mortality due to CPV is rare (2), as is in utero infection, that has been reported to cause cerebellar hypoplasia (3). Aim of this case-report is to describe the clinical presentation of CPV prenatal infection in a litter.

Postmortem examination was performed on 5 puppies of an English Staffordshire Bull Terrier bitch, aged 3.5 years, at her 2nd parturition. After a healthy pregnancy, a c-section was performed at the Veterinary Teaching Hospital of Turin (Italy) because of uterine inertia (the previous parturition had been natural). At presentation, blood parameters were normal and foetal heart rate was > 210 bpm. Surgery was done under inhalatory anaesthesia (sevoflurane in O₂), without complications. Five term puppies (3 females, 2 males) were extracted, but none could be resuscitated, none started to breathe after clearing of the airways. O₂ was administered with a tight-fitting mask. Heart rate was around 200 bpm at birth but progressively decreased until cardiac arrest, despite chest compressions and epinephrine administration (0.2 mg/kg IO) (4). No drug had been administered to the dam that could be reversed in the newborns.

At necropsy, puppies weighed 240–265 g, had abundant hemorrhagic fluid in the abdomen and the Docimasic test was negative in all of them. No macroscopic lesions were observed in the organs. The intestine showed moderate mucosal lymphocyte infiltration, while pancreas, liver, kidneys, and lungs were free of lesions. The spleen had signs of lymphocyte depletion. Microbiological exams led to unremarkable results and search for *Salmonella* spp. and *Neospora caninum* was negative. Virologic investigations using PCR on a pool of intestinal tissue detected CPV2 DNA and sequencing of the VP2 gene identified the antigenic variant CPV-2a.

This report shows how CPV is still a risk in dog breeding and how it can act in unusual presentations. The bitch had been yearly vaccinated with modified live virus vaccines: unfortunately, we have not the CPV ab titre at parturition, but only at about 90 days following it and it was very high ($> 1:640$, IMB-VacciCheck-Canine, Agrolabo, Italy). The high titre may have followed infection. We can hypothesise that the bitch had not responded properly to the CPV vaccinations and was infected during late pregnancy: her ab titre may have protected her from