

Figure Annexes 1: Poster représentant l'évolution du microbiote fécal pendant les 12 premières heures de vie chez le chiot Golden Retriever. Les résultats ont été présentés au congrès IPC2025 à Athènes, Grèce.

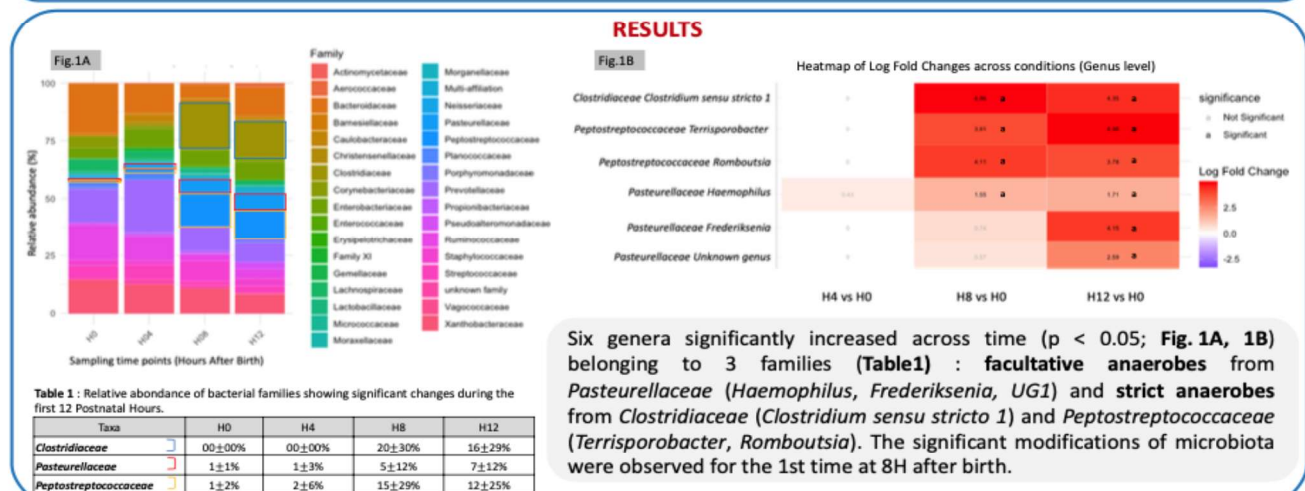
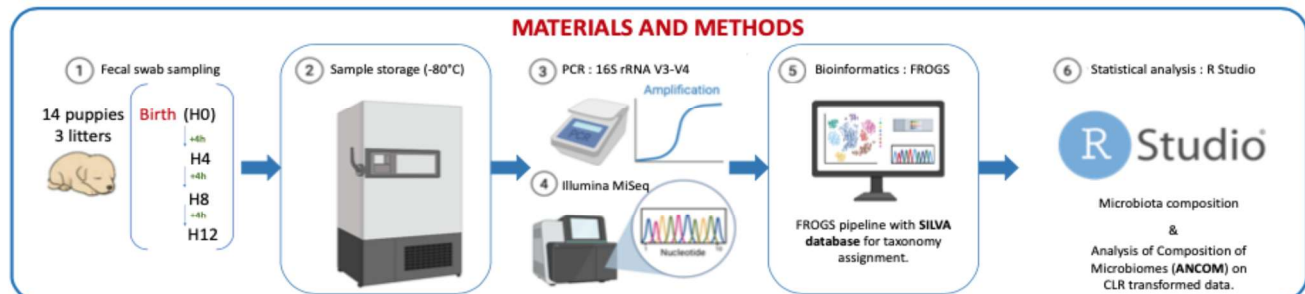


Early Dynamics of the Gut Microbiota in Golden Retriever Puppies During the First 12 Hours of Life: A Preliminary Study

I.BENDAHMANE^{1,2}, M.ROTTER¹, A.MEYNADIER², H.MILA¹

¹NeoCare, ENVT, Université de Toulouse, France - ²GenPhySE, Université de Toulouse, INRAE, ENVT, F-31326, Castanet Tolosan, France.

- **CONTEXT :** At birth, the neonatal gut contains oxygen, creating an environment favorable to the initial colonization by aerobic and facultative anaerobic microbes. These bacteria as well as enterocytes consume progressively the oxygen, allowing a progressive shift toward anaerobic conditions and the colonization by facultatif and strict anaerobes^[1]. While this ecological succession is considered to influence long-term health^[2], its early dynamics in puppies but also other species remain poorly described.
- **AIM :** To characterize the evolution of the gut microbiota in Golden Retriever puppies during the first 12 hours of life



DISCUSSION

This study, although conducted on a limited population, confirms a rapid and structured shift in gut microbiota composition during the first 12 postnatal hours. The progressive transition from an oxygen-rich environment at birth to an anaerobic one favors the early colonization by facultative and strict anaerobes, such as Clostridiaceae, Pasteurellaceae and Peptostreptococcaceae. However, the most significant changes were observed only at 8h after birth suggesting the potential role of colostrum in the modification of the gut environment and microbiota.

The identification of significantly evolving taxa within just a few hours post-birth underscores the critical window of microbial colonization immediately after delivery, offering a potential opportunity for modulation in unfavorable conditions.

^[1] Composition and evolution of the gut microbiota of growing puppies is impacted by their birth weight. Scientific Reports 2023. Q. Garrigues et al.

^[2] The long-term health effects of neonatal microbial flora. Curr Opin Allergy Clin Immunol 2009. E. Conroy et al.



Corresponding author
Ilyas BENDAHMANE
3rd year Ph.D student
Ilyasbendahmane@hotmail.com

