



HAL
open science

Salivary markers and oral sensitivity to food: a prospective study on children expressing oral disorders

Gilles Feron, H el ene Brignot, Patrick Ducoroy, S egol ene Gaillard, Aline Jeannin, Anna-Louise Le D eaut, G eraldine Lucchi, Martine Morzel, Eric Neyraud, Sophie Nicklaus, et al.

► To cite this version:

Gilles Feron, H el ene Brignot, Patrick Ducoroy, S egol ene Gaillard, Aline Jeannin, et al.. Salivary markers and oral sensitivity to food: a prospective study on children expressing oral disorders. 9.congr es international Go t nutrition sant e, Apr 2014, Dijon, France. hal-01580657

HAL Id: hal-01580657

<https://hal.science/hal-01580657v1>

Submitted on 5 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destin ee au d ep ot et  a la diffusion de documents scientifiques de niveau recherche, publi es ou non,  emanant des  tablissements d'enseignement et de recherche fran ais ou  trangers, des laboratoires publics ou priv es.

Important notes:

Do **NOT** write outside the grey boxes. Any text or images outside the boxes **will** be deleted.

Do **NOT** alter the structure of this form. Simply enter your information into the boxes. The form will be automatically processed – if you alter its structure your submission will not be processed correctly.

Title:

Salivary markers and oral sensitivity to food: a prospective study on children expressing oral disorders.

Authors & affiliations:

Gilles FERON¹, H  l  ne BRIGNOT¹, Patrick DUCOROY², S  gol  ne GAILLARD³, Aline JEANNIN², Anna-Louise LE DEAUT¹, G  raldine LUCCHI², Martine MORZEL¹, Eric NEYRAUD¹, Sophie NICKLAUS¹, Florian NICOD¹, Pascal SCHLICH¹, Caroline TRUNTZER², Michel VISALLI¹ and No  l PERETTI³.

1 Centre des Sciences du Go  t et de l'Alimentation, UMR6265 CNRS, UMR1324 INRA, Universit   de Bourgogne, 21000 Dijon, France, 2 : CLIPP (Clinical and Innovation Proteomic Platform), IFR100 Sant  -STIC, CHU de Dijon, 21000 Dijon, France 3 : Department of Pediatric Nutrition, CIC 1407, Lyon University Hospital, 69677 Bron, France.

Abstract: (Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 400 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

Introduction and objective:

In Human, the oral sphere is the first and main place where sensory stimuli are released and perceived. The phenomena occurring during food breakdown and sensory perception are complex and in this system saliva plays a major role. Over the last ten years, the increasing research on human saliva revealed the extreme complexity of this biological fluid, in terms of protein and small molecules composition. As such, saliva may carry the biological signature of an individual.

Related to food, a fundamental question is to understand whether this biological signature is established during early oral exposition to food and whether it reflects the future oral sensitivity of an individual to food. A mean to prove this concept is to follow children who had an oral by-pass during critical phases of early food behavior development that results in the development of so-called oral disorders. Oral disorders are expressed for example by an exacerbated gag reflex, difficulties in chewing and swallowing and high food selectivity and may persist for years after oral by-pass ending.

Methods:

In this context a population of 21 children who suffered from oral disorders (OD) was compared to a healthy control population (NOD, n=23). The two populations were followed during one year (three samplings over the year) and compared regarding their sensitivity to food (feeding difficulties, food preferences and food habits measured through questionnaires) on one side and their salivary composition (measured with targeted and non-targeted approaches) on the other side.



Results:

On feeding difficulty aspects, OD children were separated significantly on 6 dimensions reflecting eating difficulties, oral tactile sensitivity, appetite and interest for food, sensitivity to food texture, sensitivity to tastes, sensitivity to temperature. Moreover, liking, consumption frequency and number of consumed foods were lower for the OD compared to the NOD children for some specific food groups. On saliva, some components identified by biochemical, proteomic, peptidomic and metabolomic analyses were associated specifically to oral disorder.

Conclusion:

Despite a large heterogeneity within the groups, this study permitted to discriminate clearly between the two populations on both their food sensitivity and their salivary composition.

Further analyses of the data are ongoing in order to identify the relationships between salivary markers and food sensitivity.

References (if any):

This study was funded by the French National Research Agency (grant ANR-10-ALIA-001 ORALISENS).