

CLINICAL STUDY

« Influence of the use of chewing gums containing cranberry extract on mouth bacterial flora »

DESCRIPTION

METHODOLOGY

10 healthy volunteers were enlisted and were given chewing-gums containing cranberry extract.

Volunteers have maintained their usual mouth care routine and have consumed 4 chewing-gums per day (excluding all other type of chewing-gum).

The study was performed on 4 weeks.

For each volunteer:

➤ Day 0

1. **Plaque Index** is measured by the examiner: The index chosen is that of Turesky on all teeth, after coloration.

0: absence of plaque on the surface of teeth.

1: isolated spots on the top of teeth.

2: fine continuous plaque stripe inferior to 1 mm on the top of teeth.

3: plaque stripe superior to 1 mm of thickness and covering less than a third of the tooth.

4: plaque covering at least one third of the tooth but less than two thirds of the crown of the tooth.

5: plaque covering two thirds or more of the crown of the tooth.

2. *Saliva*

1ml of non stimulated saliva is collected in a sterile sampling jar;

After dilution, saliva is cultivated on specific medium for bacteria search and count:

- *Mitis Salivarius* Agar medium for *Mutans Streptococci*
- Man, Rogosa and Sharpe medium for *Lactobacillus rhamnosus*
- Wilkins Chalgren Anaerobic medium for *Porphyromonas gingivalis* and *Fusobacterium nucleatum*

➤ Day +4 weeks :

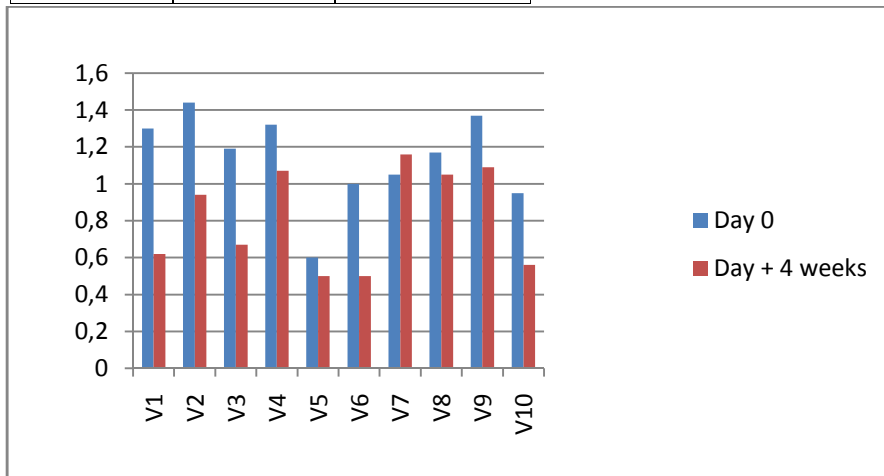
The same tests are performed once again

RESULTS

These results must be accounted for with a view to the small number of tested volunteers.

1. Plaque index

	Day 0	Day +4 weeks
V1	1,3	0,62
V2	1,44	0,94
V3	1,19	0,67
V4	1,32	1,07
V5	0,6	0,5
V6	1	0,5
V7	1,05	1,16
V8	1,17	1,05
V9	1,37	1,09
V10	0,95	0,56

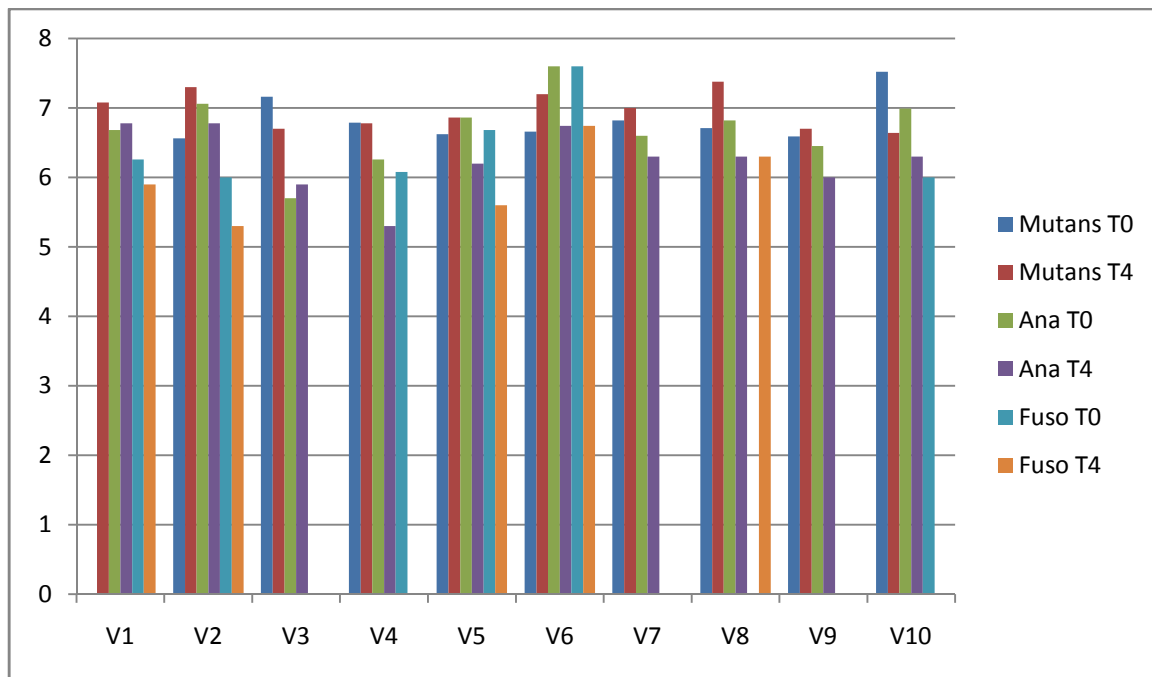


Except for one volunteer, results evidence a significant decrease of plaque index after 4 weeks of use of the chewing gums.

2. Bacterial count

Bacterial count expressed in Log CFU/ml of saliva

	Mutans T0	Mutans T4	Ana T0	Ana T4	Fuso T0	Fuso T4
V1		7,08	6,68	6,78	6,26	5,9
V2	6,56	7,3	7,06	6,78	6	5,3
V3	7,16	6,7	5,7	5,9	0	0
V4	6,79	6,78	6,26	5,3	6,08	0
V5	6,62	6,86	6,86	6,2	6,68	5,6
V6	6,66	7,2	7,6	6,74	7,6	6,74
V7	6,82	7	6,6	6,3	0	0
V8	6,71	7,38	6,82	6,3	0	6,3
V9	6,59	6,7	6,45	6	0	0
V10	7,52	6,64	6,99	6,3	6	0



- Bacteria identification:

Mutans Streptococci were identified in every volunteer

No volunteer had lactobacillus

Among strictly anaerobic bacteria found, no *P. gingivalis* was cultivated and the presence of *F. nucleatum* was inconstant

- Counts:

Levels of Mutans streptococci in saliva were not decreased by the use of chewing-gums.

A positive result was however evidenced on *F. nucleatum* levels, bacteria involved in some periodontal diseases.