



INDIAN SOCIETY OF PERIODONTOLOGY

Peri-Innovate

Rejuvenating - Periodontics

13th ISP POST GRADUATE CONVENTION

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Organised By
A B Shetty Memorial Institute
of Dental Sciences
in Association with ISP Study
Group, Mangalore

Evaluation of NANO-BIO FUSION GEL (NBF Gingival Gel) for augmented therapeutic efficiency in the treatment of periodontal disease.

PRESENTED BY :
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P.G. STUDENT

Chandra Dental College

An institution that inspires



*The art of healing comes from nature, not from the physician.
Therefore the physician must start from nature, with an open
mind.*

The health industry has always used natural products as an alternative to the conventional allopathic formulations available for the treatment of various afflictions

- ▶ Well known elements with significant anti-oxidant properties,
- ▶ Vitamin C stimulates the activation of phagocytes and their production of cytokines and lymphocytes, and directly affects on the defense of the body.
- ▶ Vitamin C is cofactor in at least eight enzymatic reactions, involving several reactions on the collagen synthesis
it directly affects on the wound healing and prevents bleeding from capillaries
- ▶ Vitamin E shortens the process of re-epithelization.

PROPOLIS

- ▶ A natural antibiotic it is a resinous yellow brown to dark brown substance that honey bees (*Apis mellifera*) collect from botanical sources to seal unwanted open spaces in the hive.
- ▶ The main chemical classes present in propolis are **flavonoids**.
- ▶ Flavonoids are well known plant compounds that have antibacterial, antifungal, antiviral, antioxidant and anti-inflammatory properties.

NANO-BIO FUSION GEL (NBF Gingival Gel)

- ▶ It is a gel type high functional paste containing
- ▶ Vitamin C,
- ▶ Vitamin E
- ▶ Propolis extract in a nanoemulsion state



Nano emulsion from sodium ascorbyl phosphate and magnesium ascorbyl phosphate (stable and active nano Vitamin C)
Nano Vitamin E



Active ingredients Sodium Monofluorophosphate(1.3%),
Silicon Dioxide(16.6%), Triclosan(0.3%)

Inactive ingredients Glycerin, D-sorbitol, Polyethylene Glycol,
Chitosan Oligosaccharide, Carboxymethylcellulose Sodium,
Propolis Extract, Xylitol, Saccharin Sodium Hydrate, Peppermint Oil,
L-Menthol, Sodium Benzoate, Ascorbic Acid, Tocopherol,
Purified Water

AIM

- ▶ To propose a therapy for augmented therapeutic efficiency of scaling and root planning in the periodontal disease by topical application of a high functional paste **NANO-BIO FUSION GEL (NBF Gingival Gel)**

OBJECTIVES

- ▶ To evaluate efficacy of scaling and root planning alone without NANO-BIO FUSION GEL (NBF Gingival Gel) incorporation.
- ▶ To evaluate efficacy of **NANO-BIO FUSION GEL (NBF Gingival Gel)** as an adjunctive to scaling and root planning in treating periodontal disease

- ▶ Randomized.
- ▶ Controlled.
- ▶ Split mouth.
- ▶ Single centre study.
- ▶ Conducted in the Department of Periodontics, Chandra dental college and Hospital, Barabanki, Uttar Pradesh, India.



Sample size:

- 20 patients
- 40 sites → 2 groups → 20 sites in each group.

GROUP	TREATMENT
A : Control	Scaling and root planing
B : Test	Scaling and root planing + topical application of NANO-BIO FUSION GEL(NBF gingival gel)

Re-evaluation was done after 24 hours ,48 hours and 7 days.

Inclusion criteria:

- ▶ Age: 25-50 years.
- ▶ Both sexes.
- ▶ Diseased sites bleeding on probing at initial visit.
- ▶ Patients without definitive periodontal therapy in last 6 months.
- ▶ Patients without antibiotic therapy in last 6 months.

Exclusion criteria:

- ▶ Candidates for periodontal surgery.
- ▶ Medically compromised patients.
- ▶ Past/current smokers.
- ▶ Patients on medications known to be associated with altered periodontal tissue growth/repair.
- ▶ Candidates for systemic antibiotic administration.

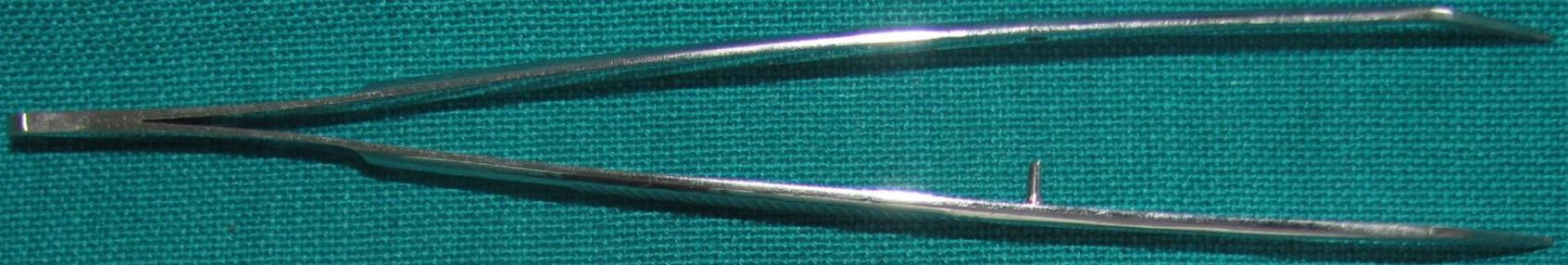
Baseline oral examination:

1. Gingival index.
2. Plaque index.
 - ▶ Scaling and root planning performed on each tooth using ultrasonic and hand instruments.
 - ▶ Topical application of NBF gingival gel at the specific site included in Group B.

- ▶ Applied directly from the commercially supplied tube.
- ▶ Method of application – after scaling and gingival curettage NBF gel was Applied topically on gums for 4-5 minutes.

After SDD





Application of NBF gingival gel



24 hours



48 hours



Day 7



RESULTS – STATISTICAL ANALYSIS

(SPSS software, version 11.5)

{ Statistical package for social sciences }

- ▶ Student's paired t-test.
- ▶ p value < 0.001 → Highly significant.

PARAMETERS	GROUP - A			GROUP - B		
	Baseline visit	1 month recall visit		Baseline visit	1 month recall visit	
	Mean±SD	Mean±SD	p value	Mean±SD	Mean±SD	p value
Plaque index	1.68±0.33	0.84±0.09	<0.001	1.69±0.54	0.49±0.09	<0.001
Gingival index	1.54±0.45	0.72±0.12	<0.001	1.62±0.12	0.44±0.32	<0.001

Male:Female	12 (60%): 8 (40%)			
Mean Age±SD (Years)	28.6±2.34			
	GI			
	Baseline	24 hrs	48 hrs	Day 7
Mean	2.495	1.54	0.61	0.475
SD	0.18	0.18	0.13	0.08
"p" (paired 't'-test) as compared to baseline		<0.001	<0.001	<0.001
	PI			
	Baseline	24 hrs	48 hrs	Day 7
Mean	2.465	0.645	0.725	1.24
SD	0.22	0.14	0.14	0.12
"p" (paired 't'-test) as compared to baseline		<0.001	<0.001	<0.001

CONCLUSION

- ▶ Application of NANO BIO FUSION gel(NBF gingival gel) following scaling and root planning may be a useful adjunct in the treatment of periodontal disease .
- ▶ The present study being a preliminary one suggests longitudinal studies with a larger sample size to be done to provide further evidence in favor of the NANO BIO FUSION gel(NBF gingival gel) for efficient clinical therapeutic approach in periodontal disease.

Gratitude is expressed toward...

Prof. Anand Kishore, M.D.S.

Professor and Head
Department of Periodontology and
Implantology

CHANDRA DENTAL COLLEGE & HOSPITAL, SAFEDABAD,
BARABANKI.
(Uttar Pradesh)

**Organizing and Scientific Committees of the 13th
ISP Postgraduate Convention**



ATTITUDE of GRATITUDE

B E T H A N K F U L

THANK YOU

