Combination Therapy in Periodontal Treatment

The Conceptual basis of Periodontal Disease as an Inflammatory Process

Arthur B. Levy DMD
Chester Dental Associates
Chester, NJ 07930
USA
www.smiledesigner.biz

Disclosure:

Practice of General Dentistry in Chester, NJ
Former Associate Professor of Prosthodontics at Fairleigh S. Dickinson University School of Dental Medicine
Founding Member of The Metropolitan Academy of Laser Dentistry (NY&NJ) as well as The Academy of Laser Dentistry
Author and Lecturer on Lasers and Non-Surgical Soft Tissue Management
2007 Recipient of the Distinguished Service Award of the Academy of Laser Dentistry
President of the Academy of Laser Dentistry
Clinical Consultant for OraPharma

“If I have seen a little further, it is by Standing on the Shoulders Of Giants.”

Sir Isaac Newton 1676
What is Periodontal Disease?

Periodontal Disease is: an infection of the tissues that support your teeth.
American Dental Association Website

Components:
- Tooth
- Sulcular Epithelium
- Boney Support

What Causes Periodontal Disease?

Foreign Body reactions:
- Habit Patterns
- Calculus

Trauma:
- Occlusion

Bacterial:
- Plaque
- Bacterial coating on calculus.
- Soft tissue reaction to Periodontal Pathogens

What is Inflammation?

Inflammation (Latin, inflammō, "I ignite, set alight") is part of the complex biological response of vascular tissues to harmful stimuli, such as pathogens, damaged cells, or irritants.

What are the signs of Inflammation?

The traditional names for signs of inflammation come from Latin:

**Dolor** (pain)
**Calor** (heat)
**Rubor** (redness)
**Tumor** (swelling)
**Functio laesa** (loss of function)


What happens Acute Inflammation?

Acute inflammation is characterized by marked vascular changes, including vasodilation, increased permeability and increased blood flow, which are induced by the actions of various inflammatory mediators. Vasodilation occurs first at the arteriole level, progressing to the capillary level, and brings about a net increase in the amount of blood present, causing the redness and heat of inflammation. Increased permeability of the vessels results in the movement of plasma into the tissues, with resultant stasis due to the increase in the concentration of the cells within blood - a condition characterized by enlarged vessels packed with cells. Stasis allows leukocytes to marginate (move) along the endothelium, a process critical to their recruitment into the tissues. Normal flowing blood prevents this, as the shearing force along the periphery of the vessels moves cells in the blood into the middle of the vessel.
Why do we use combined therapy?

Periodontal Disease And The Risk To Overall Health

Without comprehensive treatment, periodontal infection and inflammation can have severe consequences.

The inflammatory response of the periodontal infection cascade is not limited to the periodontium. The endocarditis factor, and other products of infection, can enter the bloodstream. In response, the body produces C-reactive protein, which has been associated with a variety of cardiovascular events, such as heart disease and stroke. There may be a link between periodontal disease and:

- Heart disease
- Stroke
- Diabetes
- Preterm, low-birthweight baby

Are we doing enough to treat this common, chronic, and persistent infection of the periodontal foundation? Learn about the need for comprehensive treatment.

Baby's death linked to pregnancy-related gingivitis

While gum disease has long been associated with deplorable oral hygiene, the first comprehensive prospective research has connected gingivitis with the death of a newborn child due to sepsis.
Role of General Dentist in Preventive Medicine

Gingival Inflammation and Periodontal disease has recently been found as a threat to cardiac as well as general health.

Focus of treatment is to attack the causes of the disease as well as preventing a recurrence of the disease process.

We must create a cleanable den-to-periodontal complex
Reshaping the gingival architecture,
Reducing the repopulation of the sulcus by infectious bacteria.
Sealing of the pocket by Laser and TRLAA.
Strengthening the body's ability to resist disease.
Stimulated cellular healing through LLLT.
Why do we use combined therapy?

Role of General Dentist in Preventive Medicine
- Maintain health through focused home care and guided maintenance
- Brushing
- Flossing
- Interdental Stimulation and Gingival Massage
- pH Altering Products in the Oral Cavity
- Supporting the body’s immune system
- Periodic monitoring of the Periodontal Health

When do we use combined therapy?

At what stages do we use combined therapy
- Following an initial six-point pocket charting and collection of diagnostic evaluation.
- At initial or re-care visits, pockets greater than 4 mm. need to be evaluated for a Combined Therapeutic Approach

How frequently do we use combined therapy
- Re-evaluations are done at 6-month intervals
- Periodontal Pocket Charting is done at yearly intervals

How do we use combined therapy?

Case Selection
- Pocket Depth
- Bleeding on Probing
- Tissue color

Tissue Preparation
- Reshape the gingival architecture
- Create space for instrumentation
- Create space for placement of the TRLAA
Soft Tissue Management
an 
Organized Approach

How do we use combined therapy?

Case Selection
Pocket Depth
Bleeding on Probing
Tissue color

Tissue Preparation
Reshape the gingival architecture
Create space for instrumentation
Create space for placement of the TRLAA

Placement of TRLAA

Create a biologic bandage promoting healing and possible reattachment of the Periodontal Ligament
Re-evaluation of treated site
2 Wks., 3 mos. and 6 mos. Visually
How can we Support the Immune System?

Nutritional Support:
- Diet

Vitamin Supplementation:
- Nutriceuticals
- Naturopathic Health Products

Life Style Changes

Conclusions:
Shared Treatment Responsibilities

Patient Responsibilities
- We can only create what the patient must maintain!

Dental Health Care Professional Responsibilities
- Monitoring
- Evaluation
- Training
- Treatment when necessary
Comparison of Clinical Results

<table>
<thead>
<tr>
<th>REDUCTION IN PD AT DAY 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-CP</td>
</tr>
<tr>
<td>CP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REDUCTION IN BOP AT DAY 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-CP</td>
</tr>
<tr>
<td>CP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INCREASE IN CAL AT DAY 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-CP</td>
</tr>
<tr>
<td>CP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REDUCTION IN NUMBER OF P5 PMY POCKETS AT DAY 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-CP</td>
</tr>
<tr>
<td>CP</td>
</tr>
</tbody>
</table>
Thanks to Those Who Paved the Way!

“We are like dwarfs sitting on the shoulders of giants. We see more, and things that are more distant, than they did, not because our sight is superior or because we are taller than they, but because they raise us up, and by their great stature add to ours.”

Translated from Latin John of Salisbury 1159