The Current Status of Periodontal Treatment

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Periodontal therapy has usually divided into the following phases: periodontal examination, diagnosis, treatment planning, initial preparation, re-evaluation, periodontal surgery, periodontal prosthesis and supporting periodontal therapy. Unfortunately, I do not have enough time to talk about all treatments, so I focus on several topics which are based on our research.

1. Irrigation

Subgingival irrigation with povidone-iodine and cetylpyridinium chloride can suppress the growth of microorganisms in the periodontal pockets. Our clinical studies indicate that irrigation decreases bleeding on probing, reduces the number of microorganisms (decrease in motile rods, and spirochetes and increase in Gram-positive rods and cocci.), and decreases the quantity of gingival crevicular fluid.

In conclusion, subgingival irrigation with the above medicaments has improved not only clinical findings but also changes the microbial quality and quantity.

2. Scaling and root planing

Scaling and root planing are usually indicated for pocket reduction and elimination. Root surface modifications result from mechanical instrumentation and chemical treatment. Demineralization of the root surface was obtained with citric acid and tetracyclines. They have been shown to increase the ability of new connective tissue to attach to the treated root surface. Coating root surfaces with glycoprotein such as fibronectin (FN) and fibrin stabilizing factor (blood coagulation factor XIII) increases their reattachment to the dentine surface in vitro.

In conclusion, the chemical root surface treatment with citric acid, FN, and blood coagulation factor XIII may be beneficial for exposing matrix collagen and may allow the union of root surface and gingival collagen fibers.

3. Periodontal surgery

Wound healing of periodontal tissue has mainly been divided into long junctional epithelial reattachment and connective tissue reattachment.

In the wound healing process after periodontal surgery, the presence of FN, laminin, and collagen types I and III has been investigated by the immunohistochemical technique. FN was found in large amounts after flap surgery, gingivectomy and free gingival graft.

In conclusion, FN performs an important role in regeneration of epithelium and connective tissue, especially in the organization of collagenous connective tissue. In the regeneration of connective tissue, the appearance of Type III collagen proceeds that of Type I collagen, and Type III collagen acts as an extracellular scaffold for Type I collagen. It is also suggested that laminin is maintained on the normal epithelium during the wound healing period.