

Infection or Inflammation?

Although it is well known that bacterial challenge causes periodontitis, increasing scientific evidence suggests that, in spite of bacterial challenge, periodontal destruction and periodontitis results from the individual host response and inflammatory reaction.

This opens a new perspective in relation to diagnostic procedures as well as therapeutic strategies. Recently published studies suggest that even the gingival inflammatory reaction observed in experimental gingivitis shows different pathways, and there exists a group of early as well as late responders, thus leading to more intense or less acute inflammation.

Does this mean that all the research of the past may be ignored? Scientific evidence cannot be questioned, but despite the importance of periodontal pathogens and possibly viruses the destructive process and the loss of periodontal structures is a result of the host response. This has been addressed over many years, and is known to vary between different individuals. Chemotactic defects and receptor anomalies of phagocytes clearly show that the normal function of immune cells is crucial for the health of the individual. The meticulous analysis of the different reactions taking place at the local inflammatory site and possibly influencing general health is one of the key issues for research over the coming years. All the different data have to be put together in order to draw a comprehensive picture of the local reactions taking place in a diseased organism.

This will lead to new approaches and new strategies addressing the host response and the modulation of host response as the primary goal in treatment. Thus host modulation therapy may well be established as one of the most important parts in periodontal therapy in the near future.

Although current evidence suggests that the destructive nature of periodontal disease more or less depends upon the inflammatory reaction, the primary causative agent is still the bacterial biofilm on the tooth surfaces.

Traditional approaches, including at least its partial removal, will remain part of the therapeutic strategy. In addition, host modulation therapy will enable us not only to avoid but also to block the destructive process at a very early stage.



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