GENETICS & PERIODONTAL DISEASE

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Periodontal diseases are a heterogenous group of diseases that affect hundreds of millions around the world.

The pathogenesis of the diseases is regulated by a complex interplay between microbes and the immune system. The effectiveness of immune response depends on factors in both internal and external environments. As literature suggests that many cases of periodontal diseases are best considered as the outcome of an imbalance in the host-parasites interaction. Since they are infectious in origin, the extent and severity of the disease depend upon the interaction between pathogenic challenge and host response[47].

Identification of genetic factors that control the immune response to various microbial infections in both the human and animal models have been increased and more emphasis on genetically determined host responses is focused. Additional support for a genetic contribution for periodontitis emerged recently from identification of certain genetic polymorphisms that correlate with immune response phenotypes found in certain groups of periodontitis patients[46].

Several immune response traits have been associated with clinical forms of periodontitis, and for some of these factors, the underlying genetic determinants are known.