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• Learn about ... •

Periodontal Disease *

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Periodontal disease reaches far back into the history of humankind, and can be verified by periodontal lesions in skeletal material of the earliest humans. Some anthropologists are of the opinion that periodontal disease has increased since the palaeolithic period, with relative frequency in the Neolithic period and further increases up to the present time.

Gingival, or beginning periodontal disease, can be easily recognized in the clinical patient, but cannot be verified in osteological material. Many difficulties exist regarding the results of periodontal disease in osteological material: first, postmortal damage caused by ground storage may be found in sensitive alveolar bone (manifestation of decomposition); second, it is difficult to draw conclusions relating bone and soft tissue; third, insufficient findings exist concerning the effect of abrasion on the periodontium; and fourth, standardization regarding the recording of results is lacking. However, alveolar recession has been used by archaeologists as an indication of the severity of periodontal disease found in populations of former times.



Alveolar bone loss



Calculus on mandibular anterior teeth

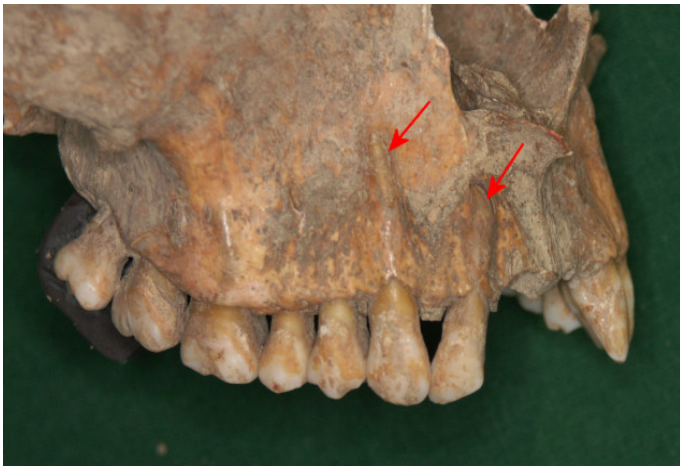
Examination of skeletal material offers many advantages: Because of the lack of soft tissue, bone surfaces and the alveolar crest can be interpreted in a precise way; fenestrations, dehiscences, bifurcation and trifurcation involvement and the loss of bone are easier to diagnose and the corresponding measurements are easier to make.

In the anthropological investigations, the following measurements should be registered:

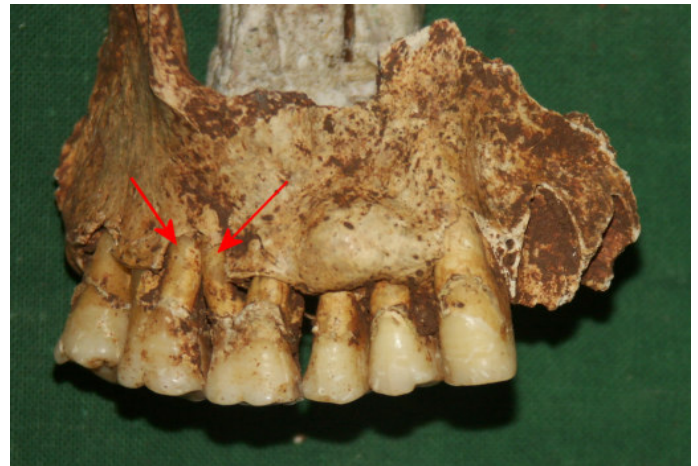
- distance CEJ-AC (cementoenamel junction – alveolar crest) mesially and distally in millimeters;
- attack of furcation horizontally in degrees, vertically in millimeters;
- fenestration in square millimeters;
- vestibular or oral dehiscence, distance CEJ-AC in millimeters;
- calculus or subgingival calculus in degrees;

and supplementary information such as:

- ascertainable traumatic occlusal forces;
- confluent lesions between endodontium and periodontium.



Fenestrations



Vestibular dehiscences

According to epidemiological investigations in both extinct and contemporary populations, periodontal disease has been a major cause for loss of teeth in early and late adulthood. Periodontal disease, which is characterized by vertical and horizontal loss of alveolar bone, is multifactorial origin. Genetic, environmental, diet and dental hygiene factors, along with influences by culture and ecology, play important roles in its etiology and frequency. As far as ancient populations are concerned, these factors are difficult to reconstruct. Unfortunately, no standardized system is available for the measurement of periodontal disease in past populations, which increases the difficulty of gaining precise knowledge regarding its frequency. It would, therefore, be of great advantage if paleopathologists would finally establish and agree upon an internationally accepted method that allows the quantification of alveolar bone loss. ■