

Categories Involved in Classification of Dental Caries

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DESCRIPTION

Dental caries is defined as a progressive, irreversible microbiological disease of teeth, which results in localized demineralization of the inorganic portion and destruction of the organic substances of the tooth. Cariology is a science which deals with study of etiology, histopathology, epidemiology, diagnosis, prevention and treatment of dental caries. A host environment rich in bacteria, breakdown carbohydrates and sugars into acids. These acids attack the tooth causing decay.

CLASSIFICATION

Categories

In early-stage caries, lesions appear as light or dark brown non-cavitated patches on occlusal surfaces. These lesions show up as non-cavitated white demineralization bands on smooth surfaces. Localized enamel degradation and dark shadows from dentin are the visible indicators of moderate stage caries. The distinctive cavitation that shows exposed dentine is a hallmark of the extensive stage of caries." The dental caries are classified depending on the nature of attack, progression of caries, surfaces involved, direction of attack, location of lesion, tissue involved and Gastric varices (GV) black classification based on treatment and restoration design.

Nature of attack: Primary caries are initial attack of tooth decay. Secondary caries are recurrent and occurs on the margins or walls of existing restorations. Recurrent caries occurs immediately adjacent to restoration. These may be caused by inadequate extension of restoration and was not able to remove well original carious lesion.

Progression of caries: These are classified into 2 namely, acute and chronic. Acute condition of caries rapidly invade the process, involves several teeth and the lesions are soft and light colored. Usually pulp is involved in the early stage. Some of them are rampant caries, nursing bottle caries, and radiation caries. In chronic caries, lesions are long standing and fewer in number. Nursing bottle caries sometimes occur due to sugar or honey-sweetened pacifier. Rampant caries results in early involvement of pulp. These may be caused due to malnutrition and emotional disturbances.

Direction of caries attack: The forward caries proceeds from the enamel to dentin. The lesion is triangle in shape with base of the triangle at enamel surface and apex towards the dentin. In pit and fissures, base is at Dentin-Enamel Junction (DEJ). The backward caries proceeds from DEJ towards enamel surface and is also triangle shaped.

Location of lesion: Pit and fissure caries are occlusal and smooth surface caries are proximal. They are located buccally or lingual surface.

Tissue involved caries: Some of them are enamel caries, dentinal caries and cemental caries. Root caries are also known as cemental caries which involves both dentin and cementum. More number of people is exhibiting gingival recession with clinical exposure of cemental surface. These are usually found in mandibular molar area and premolar region.

GV black classification: These are of 3 class namely class 1, class 2, class 3, class 4, class 5 and class 6. Class 1 caries begins in pits, fissures and defective grooves. These are seen in occlusal surface of two-thirds of molars and lingual pits of incisors. Class 2 lesions are seen on proximal aspects of molars and premolars. Class 3 lesions involves the proximal aspects of incisors and do not involve removal of incisal edge. Class 4 lesions also involves the proximal aspects of incisors but requires the removal of incisal edge. Class 5 lesions are present on gingival third of all teeth. Class 6 lesions are found on incisal edges and cusp tips.

Senile caries are those which are associated with aging and are almost exclusively seen on root surface. Residual caries are not removed during restorative procedure.

CONCLUSION

Dental caries was caused by multiple or all species of oral bacteria. Proper prevention is therefore to remove or minimize multiple bacterial species. Consumption of sugar, even in large quantities is associated with increase in caries incidence. Finely ground and heat treated starch may cause dental caries but the amount of caries is less than that caused by sugars. Dental caries can be diagnosed by optical coherence tomography, electrical conductance measurement, etc.

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