Sheet no : 2

Written by : Bayan Abu Halimeh

Corrected by : Dana Al Sharif

The previous lecture was an overview on the histology of the periodontium.

Clinical science is formed in association with the basic sciences we took in the previous years .

Diseases might occur in the periodontium.

Communication between dentists occur by nomenclatures (this facilitates communication).

We do classifications for these nomenclatures, which is based upon similarities and differences .

Classification in periodontology is a very complicated issue for two reasons :

1. diseases are multifactorial and so complex.
2. Periodontists mfalsafeen w shayfen 7alhom

Classification and nomenclature

why do we use them ? 1-easier treatment and communication between dentists and other health care provides. 2-facilitaes research, which is the basic component of humans life .

-research maintains continuity

Classification is necessary to provide a framework in which to scientifically study the etiology of pathogens and diagnosis of diseases in an orderly fashion (orderly fashion in order not to miss anything, work with a logical manner in order not to waste time and money.

So classification and nomenclature is mainly to work in an orderly manner.

Classification vs diagnosis

Diagnosis is based solely on signs and symptoms, while classification is based on treatment approach, risk factors and many different things

We usually identify different disease and then classify them into different classes (categories).

Classification is defined as the act or method of distribution of the diagnosed conditions into groups.

Type of classifications: 1- classification based on real existence of the disease (essentialism), 2- based on the risk factors of the disease, disease that differ from each other but have the same risk factors and some signs and symptoms are classified under the same category (nominalism).

Periodontitis:

Major types are: aggressive and chronic periodontitis

How are they different? They are similar in the signs and symptoms, but this doesn’t mean signs and symptoms are found in each and every disease of them.

Periodontitis : any attachment loss in the periodontium, it can be aggressive or chronic depending on the degree of the attachment loss , amount of deposits , oral hygiene habits of the ptn , and if he’s smokers or not .

Why do we need classification? For easier communication between clinicians, and clinicians and their patients, easier to identify the diseases, facilitate the research; help build the guidelines for therapy.

History of periodontal disease:

From 1900-2014, 6-9 classification systems

1989-2014,,,,,,,,, 4 classification systems

-Classification in general has been influenced by Paradigms that reflect the understanding of the natural diseases of the periodontium during a given historical period.

-diseases that are related to microorganisms in general (infectious diseases) can cause bacterial transfer rather than the disease itself ex; carious lesions, periodontal diseases.

Clinical characteristic paradigm…1870-1920

Clinical pathological paradigm….1920-1970

Infection host response paradigm …1970-till now

Once u want to become a researcher, and a good one, you have to learn the history of medicine.

Clinical paradigms (ancient paradigm).

Microscopes were first discovered in the 1955,,,(clinical pathological paradigm),understanding of the diseases and their causes ,and the study of the microorganisms became much more easier than before.

In 1975…classification was based upon the observation of the cause of the disease.

In the infection-host paradigm classification was based upon the dynamic relation between the host and the microorganism (depends on immunology, biochemistry, and body response).

The last paradigm forms the basis of all periodontal diseases ,for periodontal diseases are continuous interactions between the humans body and the microorganisms causing the disease.

The names of the diseases in the first paradigm were too long, that they describe the whole thing ex: gingival recession with minimal bone loss, periodontal destruction secondary to plaque deposits.

Environmental factors: are one of the major components in the pathology of any disease.

New classification of periodontitis. (Infection – Host Response Paradigm) dnt memorize this classification just understand the development of the classifications .

1-adult periodontitis

2-early onset periodontitis : A. prepubertal periodontitis B. juvenile periodontitis C.rapid progressive periodontitis.

3-periodontitis associated with systemic diseases.

4-Necrotizing ulcerative periodontitis .

5-refractory periodontitis

This classification is made based on age ,recurrence, onset, extent, systemic health, but they forgot to include gingivitis (according to the presence or absence of gingivitis).

The main cause of periodontitis is the loss of attachment which means the periodontal ligaments lost their attachments ,apical migration of the gingival margins, which leads to pocket formation, recession, or both ).

New classification In 1999: ( the one we use now )

1-plaque induced gingivitis- nonplaque induced

2-chronic periodontitis (generalized or localized)

3-aggressive periodontitis (generalized or localized)

4-periodontitis as a manifestations of systemic diseases.

Periodontitis is exacerbated by host response which occur due to microorganisms.

Systemic diseases that can cause periodontitis :

-almost all of them are pure genetic.

-almost all of them affect the metabolism of the extracellular matrix; they affect the collagen physiology and the metabolism of the extracellular matrix of the connective tissue.

5- necrotizing periodontal diseases

6-Abscesses of the periodontium are of three types:

-gingival abscess

-periodontal abscess

-pericoronal abscess ( in the wisdom 3rd molar region)

7- Periodontitis Associated with Endodontic Lesions (endo-perio or perio-endo or combined)

8- Developmental or acquired deformity or conditions:

1. localized tooth – related factors predisposing to plaque – induced

gingival diseases or periodontitis

1. Mucogingival deformities & conditions around teeth
2. Mucogingival deformities & conditions on edentulous ridges
3. D- Occlusal trauma

Gingival diseasses :

-plaque induced (inflammation confined to the ginigiva ,no attachment loss)

-nonplaque induced

Plaque induced gingival diseases has many categories:

-without any local contributing factors ,, main cause of gingivitis is plaque (as well as chronic and aggressive periodontitis)

-the main etiological factor is plaque.

Periodontitis as a manifestation of systemic diseases has nothing to do with plaque.

Gingivitis without any local contributing factors ( no fillings ,no malocclusion, no crowding, no rough surface) , but only a very bad oral hygiene habits along with plaque accumulation ,,,this results in gingivitis plaque induced without any local contributing factor.( this is the simplest type of gingivitis, which is based on the interaction between the microorganisms and the host’s tissue )

-gingivitis plaque induced, is affected by the endocrine system, mainly puberty, menstruation, pregnancy, DM)

Inflammation of the gingiva due to menstruation and pregnancy (disturbance in the hormones) which increase the risk of gingival diseases.

Progesterone, decreases the inflammatory protection mechanism of the host’s body, and so it increases the inflammation of the gingiva.

[Diabetes Mellitus](https://www.google.jo/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCsQFjAAahUKEwjf9Yub79rIAhWj_HIKHVZABU0&url=http%3A%2F%2Fwww.webmd.com%2Fdiabetes%2Fguide%2Ftypes-of-diabetes-mellitus&usg=AFQjCNG7YsY8j_Dl2iEC7Z-MFL0U9tpF2w&bvm=bv.105841590,d.bGQ) as a factor that increase the inflammation present due to plaque accumulation.( In gingivitis )

But diabetes mellitus in chronic periodontits is a risk factor .

Modifying factors for plaque induced gingivitis:

Blood dyscrasias :

20-30% leukemia cases,,,can be diagnosed for the first time on the dental chair ( the gym become bluish , atrophic and you may find multiple ulcers )

Modified by medication:1- drug induced gingivitis ,2- drug influenced gingival enlargement , caused mainly by 3 drugs : 1- phenytoin 2-calcium channel blocker 3- cyclosporine

-the main cause of gingivitis is plaque but is exacerbated by other factors.

Drugs for example , changes in the metabolism of collagen , increases mitosis, decreases degradation of collagen, increases the synthesis of collagen (this is how drugs function)

Plaque and drugs are greatly related , plaque causes inflammation and drugs causes enlargement of the gingiva ,, the gingival enlargement is a retentive factor for the plaque accumulation that in turn increases inflammation of the gingiva.

If the plaque were removed and the oral hygiene habits were improved, enlargement of the gingiva will decrease, it would still be there but minimal enlargement.

Initiating factor of gingival enlargement is plaque and is modified by drugs or other systemic diseases.

Ascorbic acid deficiency cause gingivitis

Non plaque induced gingivitis mainly affect low socioeconomic group of people, developing countries, and immunocompromised people.

-specific bacterial origin (streptococcal , E.coli, N.gonorhea) / specific viral origin (herpes)/specific fungal (candida ,histoplasmosis )/ leisons of genetic origin (primary herpetic gingivatostomitis) ,,,these can cause gingival enlargement.

Manifestations of systemic diseases (no plaque , it has nothing to do with plaque) ex: lichen planus, herpetic labialis ,lupus erythromatous.

Traumatic lesions can cause gingival enlargement , foreign body rxn can also cause gingivitis.

Some drugs can cause gingival enlargement alone , without the presence of plaque .

Periodontitis : is an inflammatory disease of the supporting tissues of the teeth caused by specific microorganism or a group of microorganisms resulting in progressive destruction of the periodontal ligaments and the alveolar bone with pocket formation , recession or both.

Inflammatory disease happen due to destruction caused by an inflammatory response.

Clinically we see periodontitis as an enlargement in the gingiva, pocketing alone or with gingival recession.

In periodontitis mainly bone loss is horizontal.

Risk factors of periodontitis : main one is plaque accumulation (main etiological factor )

Others : smoking ,age (with increasing age risk increases),,we mean here a longer time span spent under the risk ,,not the age itself as a factor,,,DM, obesity , genetics, stress .

55 years old man has a higher risk factor than a 25 years old guy ,, it’s a matter of time spent exposed to the risk factor (time factor ).

Aggressive periodontitis : bone loss can occur with pockets but no gingival recession ,,a lot of pain and bleeding in the gingiva , this happens as a result of a very fast loss of attachment in the periodontal tissues that the gingiva had no time to recess along with them .

Only pocketing , there is no plaque accumulation

Primary factors:

-medically fit pockets

-rapid attachment loss and more destruction

-familail aggregation of cases (a lot of aggressive periodontitis cases in the family ),, clustering in the family.

Gingival diseases – chronic periodontitis- aggresisive periodontitis

Secondary factors:

-Microbial deposits are inconsistent with the severity of the tissue destruction (the type of the microorganism itself causes the destruction not its number or its size).

Periodontitis as a manifestation of systemic diseases:

Ex: cathepsinC ,,, the main component needed to maintain homeostasis in the extracellular matrix of the tissue.

Ehlerdanlossyndrome :affects the collagen formation (affects the collagen synthesis ).

Down syndrome and cyclic neutropenia ,,might be associated with certain degree of periodontitis (different degrees) that has nothing to do with plaque accumulation.

Necrotizing ulcerative periodontal diseases : clinical characteristics: pain, fetid breath, bleeding spontaneously, blunting ,pseudo membrane)

Abscess of the periodontium ,,,gingival abscess ,periodontal abscess, pericoronal abscess

Periodontitis associated with endodontic lesion ,,,endo-perio (I treat the endo problem first ,as a result, the perio problem will disappear ) ,,or perio-endo lesion ( the problem is mainly perio problem ,,very difficult to treat ),,or combined (extract the tooth).

Developmental or acquired deformity and conditions :

1 -localized factors that predispose to plaque induced diseases ,ex: palatal grooves, enamel projections ,enamel curvatures, teeth location, teeth anatomic factors , root fracture, restorations ,appliances cervical root resorption ,dental restorations).

2- mucogingival deformity and conditions around the tooth ,ex: soft tissue recession ,lack of keratinized gingiva , it has nothing to do with plaque.

-after ortho treatment the tooth location changes , the gingiva around the tooth changes as well ,,which might result in more plaque accumulation.

- no enough gingiva in a specific area ,malocclusion, faulty eruption ,muscle position, frenal attachment and position, vestibular depth, excess gingival ,pockets ,inconsistent margins, enlargement of the gingiva ,gummy smile or abnormal color in the edentulous ridge.

Occlusal trauma can be: primary or secondary