HISTORICAL BACKGROUND OF PERIODOTOLOGY: A THOROUGH RESEARCH

Dharminder[1] , Gurpreet Singh[2]
Desh Bhagat Dental College and Hospital, Mandi Gobindgarh, Punjab, India

ABSTRACT

The specialty of periodontics has a long history of civilization, dating back to prehistoric, early middle eastern and Egyptian cultures where there is skeletal and written evidence of periodontal disease. "Healthy gums enhance the appearance of teeth like a frame around a beautiful painting"therefore, it is without doubt that periodontal health is been increasingly recognized as the cruxof successful restorative and preventive therapy. With increasing understanding of the disease process, more effectiveprevention and treatment regimes will become a reality and their to oral health care planning willprove valuable.

KEYWORDS: Periodontology, Periodontal diseases, oral prophylaxis

INTRODUCTION

The specialty of periodontics has a long history of civilization, dating back to prehistoric, early middle eastern and Egyptian cultures where there is skeletal and written evidence of periodontal disease.Ancient Chinese and Indian histories describe scurvy and other periodontal conditions and advocate cleansing of teeth for oral health.One of the first documented clinical practices in the united states, devoted to the practice of "oral prophylaxis" was established by Dr.Grace Roger's in Detroit, Michigan in 1904.

Untreated these diseases lead to alveolar bone loss and to date continue to be the leading cause of tooth loss in adults.Various forms of gingival and periodontal diseases have the human race since the dawn of history. In the earlier historical records almost all the writings have information regarding the diseases affecting oral cavity and majority of it is about periodontal diseases

EARLY CIVILIZATIONS

SUMMERIANS OF 3000BC first practiced oral hygiene, they decorated GOLD TOOTHPICKS.BABYLONIANS and ASSYRIANS who have suffered from periodontal diseases have treated themselves using gingival massage combined with herbal medications.Research on EMBALMED bodies of the ancient EGYPTIANS pointed out that periodontal diseases was the most common of all diseases. They made remedies made from various plants and minerals and applied to gums in the form of a paste with honey, vegetable gums or residue of beer as a vehicle.

Medical works of ancient INDIAN,SUSRUTA SAMHITA and CHARAKA SAMHITA described severe periodontal disease with loose teeth and purulent discharge from the gingiva and the treatment advised was to use a stick that is bitter for cleaning teeth. The stick for brushing the teeth should be either astringent or pungent or bitter. One of its ends should be chewed in the form of a brush. It should be used twice a day taking care that gums are not to be injured.

CHINESE

Periodontal diseases was also discussed in ancient Chinese BOOKS. The oldest book written in 2,500BC describes various conditions affecting oral cavity.

ORAL DISEASES were divided into 3 TYPES :

1.)FONG YA ---inflammatory conditions

_2.)YA KON---diseases of the soft investing tissues of teeth

_3.)CHONG YA---dental caries

Gingival inflammation, periodontal abscesses and gingival ulceration were described in detail. Herbal remedies are mentioned for the treatment of these conditions. They were among the earliest people to use the TOOTHBRUSH to clean the teeth. Artifacts of PHOENICIAN civilization included a specimen of wire splinting, apparently constructed to stabilize teeth loosened by periodontal disease.

GREECE

With the development of GREEK culture and science came golden ages of western civilizations. HIPPOCRATES OF COS (460-377BCE) father of modern medicine.He discussed function and eruption of teeth and etiology of periodontal disease.He believed that inflammation of gums could be caused by accumulation of PITUITA or CALCULUS

ROME

AULUS CORNELIUS CELSUS(25BCE-50CE) referred to diseases that affect the soft parts of mouth and their treatment. He described looseness of teeth caused by weakness of their roots or flaccidity of gums. He believed that stains on the teeth caused by weakness of their roots or flaccidity of gums. He believed that stains on teeth should be removed and teeth should be rubbed with

dentrifrice.Gingival massage was an integral part of oral hygiene.

PAUL OF AEGINA (625-690CE) tartar incrustations must be removed with a small file and teeth should be cleaned after last meal of day.

MIDDLE AGES

The systematic therapeutic approach was not developed until middle ages. This was aP period of golden age of ARABIC science and medicine.

AVICENNA and ALBUCASIS made a refined novel approach to surgical work.ALBUCASIS had a clear understanding of calculus as etiology of periodontal disease and described the technique of removing it. He used an extensive matera medica for oral and periodontal diseases and rarely resorted to surgery. He also developed a set of scalers for removing calculus.he wrote in detail on other treatment procedures like extraction of teeth, splinting loose teeth with gold wire etc. the scaling of teeth is done with instruments of various shapes according to the use that is required for them. The scalers used for scaling inner surfaces of teeth are different than those employed for exterior surfaces and those that are used forinterdental surfaces.

RENAISSANCE

PARACELSUS developed an interesting and unusual theory of disease: "THE DOCTRINE OF CALCULUS". A specific digestive process already takes place in the mouth and this process is potent enough to sustain life. Its waste products are deposited as tartar on the teeth with resulting decay of the gums, wearing down of teeth. Toothache is thus comparable to the pain caused by calculus elsewhere.

EUSTACHIUS gave first original book on teeth.he also said that teeth developed from dental follicle and not from roots of deciduous teeth. Also described some diseases of mouth.

His treatment of periodontics was remarkably modern in that he advised both scaling of calculus and curettage of granulation tissue so that anactual reattachment of gingival and periodontal tissue could take place.

AMBROISE PARE developed many oral surgical procedures, including gingivectomy for hyperplastic gingival tissues. He understood etiologic significance of calculus and used a set of scalers to remove hard deposits on the teeth.

Italian physician mathematician and philosopher **GIROLAMO CARDANO** was first to differentiate types of periodontal diseases. In a publication dated 1562 he mentions one type of disease that occurs with advancing age and leads to progressive loosening and loss of teeth, as well as second, very aggressive type that occurs in younger patients.

LEEUWEHHOEK using material from his gingival tissues, first described oral bacteria flora and his drawings offered a reasonably good presentation gave a presentation of oral spirochetes and bacilli.

18th CENTURY

MODERN DENTISTRY was developed in the 18th century. PIERRE FAUCHARD in 1678 who is rightly considered as "father of modern dentistry" designed periodontal instruments and described the techinique in detail.His book "the surgeon dentist" published in 1728 presented all aspects of dental practice (i.e restorative dentistry prosthodontics, oral surgery, periodontics and orthodontics) .FAUCHARD wrote in that, confections and sweets destroy the teeth by sticking to the surfaces producing an acid.

JOHN HUNTER {1728-93} known as an anatomist, surgeon and pathologist of 18th century wrote a book entilled"THE **NATURAL HISTORY OF HUMAN TEETH"** describing anatomy of teeth and its supporting structures with clear illustrations.

THOMAS BREDMORE {1740-85} known as "the dentist to his majesty" published the treatise in the disorders and deformities of teeth and gums. He not only offered detailed descriptions of instrumentations but also stressed on prevention.the first qualified AMERICAN dentists were trained in England and France.Bredmore not only offered detailed description of instruments but also stressed on prevention.The first quality American dentist were trained.

19th CENTURY

LEONARD KURECHER a German born dentist, in his paper Philadelphia journal of medicine and physical sciences described inflammatory changes in gingiva and presence of calculus on teeth, leading to their ,leading to looseness and exfoliation.he mentioned the need for oral hygiene by the patient to be performed in the morning and afterevery meal using an astringent powder and a toothbrush, placing the bristles into the spaces of teeth.He discouraged splinting as it

loosens firm teeth. Recommended that treatment of caries to be postponed until after the gum treatment is completed and that placement of articial teeth be avoided.

LEVI SPEAR PARMLY{1790-1859}FATHER OF ORAL HYGIENE AND DENTAL FLOSS"….a waxen silken thread….which is to be passed through the interstices of the teeth, between their necks and the arches of the gums, to dislodge that irritating matter is a real source of distress.

ALPHONSE TOIRAC {1791-1863}Used term "pyorrhea alveolaris" for the first time.

JOHN W RIGGS was the first individual to limit his practice to periodontics and was considered the first specialist in this field. Periodontitis was known as "RIGGS DISEASE".He was the first individual to limit his practice to periodontics and was considered the FIRST SPECIALIST IN PERIODONTICS.RIGGS stronglyadvocated cleanliness of mouth because he believed that the teeth themselves ,with their accumulated accretions and roughened surfaces…..are exciting cause of the disease.Riggs and his disciples were proponents of so called conservative approach to periodontal therapy. He described clinical features and treatment based on hygiene measures.

W.J.YOUNGER {follower of JOHN W.RIGGS} He was the first one to discuss the possibility of "REATTATCHMENT". IN1902, he grafted the gingival tissue n reported it to be a success.Several major developments took place in the second half of 19th century, started the era called the MODERN MEDICINE.

FIRST, was the discovery of anesthesia.

SECOND, scientific breakthrough was made by "LOUIS PASTEUR" Who established "THEGERM THEORY OF DISEASE"

THIRD scientific discovery was of RADIOGRAPHS by "WILHELH ROTGEN" proved to be acrucial developed in periodontics and many other areas of medicine and dentistry.

In late 19th century light was shead on the microscopic changes occurring in inflammation. Thisleadto an understanding of the pathogenisis of periodontal diseases based on histological studies.

N.N ZNAMENSKY understood the complex interaction of local and systemic factors in the etiology of periodontal diseases.He described the presence in inflamed gingiva of the cellular infiltrate that extends deeper as thedisease progress,causing bone resorption associated to multinucleated cells {OSTEOCLASTS} and howship's lacunae.he treated pyorrhea with removal of calculus and deep curettage of pockets using cocaine anesthesia.

ADOLPH WITZELidentify bacteria as the cause of periodontal disease. He wrote a classic book"THE MICROORGANISM OF THE HUMAN MOUTH" {1890} he described features of periodontal diseases and considered role of predisposing factor,irritational factors and bacteria in etiology of pyorrhea alveolaris. Disease was not caused by a specific bacterium but by a complex array of various bacteria normally present in oral cavity"NON SPECIFIC PLAQUE HYPOTHESIS" {as known later}

G.V.BLACK gave the term GELATINOUS MICROBIC PLAQUE and described its relation to caries

XENOPHONrecognised ANUG in 4th century BC.

SALMON ROBICSEK{1845-1928} developed a surgical technique consisting of scalloped continous GINGIVECTOMY excision, exposing the marginal bone for subsequent curettage and remidelling.

MORITZ KAROLYIFirst description {1901} of possible role of trauma from occlusion and bruxism.

JEAN VINCENT described spirillum and fusiform bacilli associated with what later became known as VINCENT'S ANGINA.

1904-vincent described these organisms in acute ulceronecrotic gingivitis.

20th CENTURY

Early 20th century witnessed major changes in the treatment of periodontal diseases.In the first third or 20th century periodontics flourished in central europe with two major centers of excellence:

VIENNA

BERLIN

VIENNA

Vienna school developed the basic histopathologic concepts on which modern periodontics was built. GOTTLIEB {1885-1950} described the attachment of gingival epithelium to the tooth.

Histopathology of inflammatory and degenerative periodontal disease. Biology ofcementum,active and passive

tooth eruption and traumatic occlusion. It was realized thatremoval of calculus and other deposits was not enough in removal of periodontal pockets wasnecessary.

BERLIN

Berlin group consisted of clinical scientist who developed and refined the surgical approach to periodontal therapy.

WESKIconceptualized the periodontium as formed by cementum,gingiva,periodontal ligament and bone and gave the name-PARADENTIUM

LEONARD WIDMAN AND NEWMAN described flap surgery for removal of periodontal pockets. Removal of bone was considered essential at that time.In 1923,WARD introduced the surgical pack under trade name WONDER-PAK.

FOCAL INFECTION THEORY

By SIR WILLIAM HUNTER indicated dentistry as being the cause of oral sepsis which in turn caused rheumatic and other chronic disease. So, in this lieu extractions of all teeth with periodontal or periapical infections to prevent systemic diseases eventually got rejected as extraction failed to eliminate or reduce the systemic disease to which infected teeth were supposed to linked.

AFTER WORLD WAR II

THE FOCUS WAS ON PERIODONTAL and RESEARCH and lead to a better understanding to the pathological, microbiologic immunological aspects of periodontal diseases.The first workshop in periodontology was conducted in 1951.It was realized at that time,scientific methods should be introduced in periodontal research.Subsequent workshops conducted in periodontics has witnessed significant scientific contributins in the field of periodontics.

CONCLUSION

"Healthy gums enhance the appearance of teeth like a frame around a beautiful painting"therefore, it is without doubt that periodontal health is been increasingly recognized as the cruxof successful restorative and preventive therapy. Periodontology has experienced severalexciting paradigm shifts in the last 30 years and it is certain that the first half of this new centurywill see several more.With increasing understanding of the disease process, more effective prevention and treatment regimes will become a reality and their to oral health care planning willprove valuable.

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