Periodontics as a Practice Builder-A Review

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ABSTRACT

Periodontology is one of the recent specialties in dentistry and can be said to have had its root as a specialty in 1914 with the founding of the American Academy of Periodontology. This article aims to provide information on the history of periodontology, which can be used to reinforce previous periodontology knowledge, assess one's current level of understanding in light of today's expanded body of knowledge, and look to the future with confidence that periodontics will play a significant role in one's dental practise and help solve many of the problems recently mentioned.With improvements in the ability to detect, prevent disease and halt its progression, and repair missing periodontium, the area of periodontics is quickly evolving. To maintain overall health, all dental infections must be treated, including gingivitis and periodontitis. As patients come to recognise the significance of oral health to overall health, opportunities for early diagnosis and prevention will play a larger part in dental practise in the future. Education about the value of periodontal health for the general public is urgently needed. All of these data suggest that periodontal disease needs to be seen from a whole new angle, and a prospective approach of prevention and early intervention in treating the illness is more crucial than ever.

Key words: Gingivitis, healing, hyaluronic acid, implant, oral mucous regeneration, oral ulcers and periodontitis.

Periodontics is a standard profession that includes sophisticated treatment planning and a wide variety of treatment modalities ranging from conventional to advanced therapies such as LASER, Peizosurgery and minimally invasive surgical techniques(MIST). It is a comprehensive speciality that offers chances in academia, clinical practise that is supported by solid scientific information and is evidence-based, paving the door for future research horizons. Every other speciality in dentistry is said to revolve around periodontics since it maintains the health of the teeth so that other treatments can be provided. It is a special area of dentistry that allows for both tooth conservation and implant-based tooth replacement. Older individuals are predominantly affected with periodontal diseases. With improvements in the ability to detect, prevent disease and halt its progression, and repair missing periodontium, the area of periodontics is quickly evolving. In light of the new emphasis on clinical decision-making, it is our responsibility to provide patients with the best care possible in a way that bridges science and clinical practice1.

HISTORY

Dental medicine, especially periodontics, has significant transformation since then due to extensive research works. By 1947, the American Dental Association had officially recognised periodontics as a dental specialty. From then on scope and progress of periodontics as an individual speciality in dentistry has expanded1.

During the latter half of the 20th century, periodontal education in the United States also increased, and the majority of dental schools now have independent units dedicated to the teaching and research of this field.Modern treatment with a scientific foundation and sophisticated apparatus did not evolve until the 18th century, and methodical, thoroughly considered therapeutic approaches did not exist until the middle ages2. Prior to the 1950s, diseases were mostly treated by root debridement and the extraction of the diseased tooth. Until the 1970s, it was primarily the symptoms of periodontal diseases were treated. The aim was intended to radical elimination of the periodontal pocket (resective therapy). The methods included gingivectomy, flap procedures and osseous surgery3. The substantial loss of periodontal tissues, the absence of regeneration, and the clinically extended teeth were the drawbacks.Due to these drawbacks and the growing understanding of the significance of aetiologic agents, the need for complete pocket elimination was questioned. In the 1980s, the control of subgingival infection by thorough scaling and root planing (nonsurgical therapy), both with and without antibiotics, became a widely used treatment. Comparative longitudinal studies comparing surgical and nonsurgical treatments showed that both produce a long junctional epithelium with limited regeneration and repair. The causative, regenerative, and specific for disease type and severity components of the contemporary concept of periodontal therapy are its most crucial components. Biological principles of guided tissue regeneration and graft materials can be used to regenerate the periodontium, however unlike conventional techniques, they cannot fully restore the periodontium to its normal state4.

PERIODONTITIS IS A GLOBAL BURDEN DISEASE:

Periodontal diseases are considered as one of two significant global burdens of oral disease, with the other being dental caries the World Health Organisation (WHO). Severe periodontitis is now recognised as being the 6th most prevalent disease of mankind5. Periodontitis is a chronic inflammatory microbial disease that affects the supporting tissues around the teeth. The host has an important role in the disease's susceptibility. In the early stages of periodontitis, some patients are not aware of any problems. However, as the disease progresses, patients may complain of gingival bleeding, a bad taste in their mouth and, in later stages, become aware of loose teeth. If periodontitis is not treated, it can result in both loss of teeth and function which has negative effects on patient's quality of life. According to the most recent prevalence data from the 2009 UK Adult Dental Health Survey, 37% of the adult population affected from moderate levels of chronic periodontitis (with 4-6mm pocketing), while 8% of the population suffer from severe periodontitis (with pocketing exceeding 6mm) and severe periodontitis has been found to affect 11% of adults worldwide3.

Periodontal disease has a number of risk factors, including poor oral hygiene, smoking, diabetes, heredity, poor nutrition, and stress. The complex pathophysiology of periodontal disease suggests that the main predictor of vulnerability is the patient's response to the bacterial assault. The periodontal assessment therefore includes identifying the many inherited and acquired factors determining susceptibility5.

With the latest sophisticated equipmets for detection of disease and treatment modalities the longevity of average human being has increased many folds, so more and more older individuals are seeking dental treatment especially periodontal treatment. As we know periodontal disease affects the older individuals, it is mandatory we should know to periodontally mange the medically compromised patients and also we have to keep in mind periodontitis can be risk factor for sytemic disease.The biological mechanisms by which periodontitis might influence systemic health are linked to the fact that periodontitis can be elicited by gingival inflammation which compromises the barrier function of the gingival epithelium leading to an ingress of bacteria or bacterial toxic products or inflammatory products into the systemic circulation. In extreme situation, the wound area from periodontal inflammation can be as large as the palm of the hand. This area of inflammation, which has sometimes been present for years, may have an effect on overall health. Although it is established that periodontitis is associated with systemic diseases, such as cardiovascular disease and diabetes, there are challenges in establishing 'causality'. There are many reasons behind this challenges6. Firstly, periodontitis and other common, chronic, non-communicable diseases share common risk factors such as smoking, obesity, diabetes, lack of exercise, poor diet and increasing age. Second, as periodontitis is likely to have a little effect on various disease processes, large-scale studies are required to definitively show either an effect or no effect. However, what is important for general health is likely also to be protective for periodontal health. It is important to consider these systemic factors also when managing patients with periodontitis, in order to aid successful treatment. Thoroughly assessing and diagnosing the type of periodontal disease using the current classification system is important6,7.

Periodontal diseases remain very common till today among individuals. Early stages may be symptom-free, but later stages have a very detrimental influence on people's life. It is essential for us to treat the large numbers of people with this condition has never been more acute. Even more important is to prevent our patients from developing the condition. This can be achieved by integrating into clinical practice know about health behaviour change and the complexity of causes and modifiers of the disease including plaque, tobacco use, diabetes and many others.

The general public has very little understanding of the significance of gingival and periodontal health (in all dental procedures). When a patient has dental pain, all they want is for it to stop. Referral rates are quite low because general dentists are unable to identify periodontal diseases. Additionally, more and more general dentists are attempting to handle periodontal patients on their own . The Periodontal therapy is also shifting more from surgical to non –surgical techniques & with the lasers market holding strong in their promotions for gingival Problems, referrals to Periodontists will further decline . This is a fact that needs to be noticed and accepted. It is essential to always upgrade with the newest technologies and clinical expertise for proper implementation8.

PERIODONTAL ASSESSMENT

The early detection and identification of periodontal diseases are crucial tasks for dental professionals. A crucial part of patient care is a thorough examination of the periodontal tissues. The most simplest way of assessing periodontal status is by a a simple periodontal probing method and various chairside side techniques also available as a easy way for periodontal screening. The General dental practitioners should mandatorily do the periodontal screening and recording not only for detecting the periodontal disease but also for the regression of periodontal disease.The British Society of Periodontology created the Basic Periodontal Examination (BPE) for the first time in 1986. Periodontal tissues are probed during screening to check for bleeding during probing, plaque and calculus deposits and the depth of any potential periodontal pockets. The BPE is a straightforward screening tool that can be used to determine the level of additional testing required and to offer general treatment advice. The BPE standards constitute a basic level of care for first periodontal examination but are not prescriptive. BPE should not be utilised for diagnosis; it should only be used for screening. While probing is essential for disease identification, don't forget to visually check and document tissue health. Look for healthy gingival tissues as well as disease symptoms like redness, loss of stippling, etc. The location of these changes is recorded, which helps to tailor and concentrate oral hygiene teaching. An accurate radiograph is a

crucial component of the patient's clinical record and the periodontal assessment8.

SHOW AND TELL TECHNIQUE:

Create benefit-focused communications to demonstrate how treating gingival diseases can stop further issues from arising down the road and how your services can help them enhance their smiles.

Use the Show-and-Tell Method: Just 10% of what you say will be remembered by the patient if you merely describe the periodontal issue; however, 35% of what you say will be remembered if you only SHOW the patient the issue. The "Show & Tell" technique has a 65% patient retention rate. Because periodontal issues are Silent Killers, patients don't always understand how critical it is to get them treated. Use this technique frequently to market periodontology in your office. Maintain. Stick to your commitment: Regular follow ups is mandatory and if that is not done patients loose track & again loose interest in maintaining the gingival health. It is seen patients rarely follow up once the treatment is completed , so send 6 month/ yearly reminders in your software & be sure they don't miss those appointments9. Communications skills with patients should be clear and direct and always give treatment options to the patients. Whenever communicating with the patients, don't start with the word of surgery and most of the time periodontal treatment shows good results with non surgical treatment also and inform them surgical therapy is the last option.

HOW PERIO IS A PRACTICE BUILDER?

The understanding of periodontal illnesses has been fundamentally altered by developments in periodontal science and practise over the past ten years, and both non-surgical and surgical treatment options for periodontal disorders now have new, exciting prospects10. The gold standard of periodontal therapy for many years has been mechanical methods of subgingival debridement done by thorough scaling and root planing, together with oral hygiene practices. Every clinician's dream has been to find a realistic and practical technique to treat periodontal disease12.

The primary concern in any periodontal treatment is a control over the virulent microorganisms and resolution of soft tissue inflammation and regeneration of lost alveolar support. Resolution of soft tissue inflammation appears to be an established accomplishment after scaling, root planing(SRP) and oral hygiene instructions. Various treatment options are available in the armory of a periodontist including surgical and non-surgical therapy10. Innovative clinicians, scientists, and researchers have turned to novel and occasionally exotic avenues and explored new frontiers of physical laws, pharmacological molecules, and new concepts as available for other medical situations because they were dissatisfied with traditional weapons to combat oral microbiota and restore lost alveolar bone support11.

Non-surgical therapy is usually the initial approach for managing patients with periodontal disease. Following periodontal assessment, diagnosis and treatment planning, this phase includes behaviour change including oral hygiene instruction and advice, control of other risk factors such as smoking and tobacco use. Nowadays we have multiple options in non surgical therapy other than scaling and root planning, splinting and occlusal therapy for mobile tooth, local drug delivery system for isolated periodontal lesion, host modulation therapy, ozone therapy etc. Previously the periodontal surgical procedures were seems to be a failure procedure, they say it as a 'flap procedure is a flop procedure'. Now we have more advances in surgical procedures with advent of minimally invasive surgical procedure, LASER with minimal discomfort, piezosurgery and various periodontal surgical procedures shows predictive and more good results. Periodontist are the one who can place implant with minimal tissue damage and they are the one who can detect and manage periimplant diseases effectively. With advancement of LASER, minor surgical procedures are painless ,bloodless procedures and patients are happy to have surgical procedures under laser and it has a esthetically predictable also. Many latest regenerative and mucogingival procedures using PRF and CGF also has shown predicatable results. We have to develop our skills in all these periodontal advancement procedures to show more success rate.

Supportive periodontal therapy is the key to successful prevention and treatment of periodontal diseases and to lower the periodontal inflammation level and maintain good oral hygiene. Periodontics plays a vital role in the interdisciplinary approach for the success of other branches of dentistry like endodontics, prosthodontics and orthodontics. Nowadays more and more adult patients see orthodontic therapy, adult orthodontics requires atmost periodontal care. So periodontist play vital role in success and outcome of orthodontic therapy. For the success of restorative treatments and crown and bridge proceudres the utmost care of periodontal tissues and oral hygiene is very important. So Periodontist play a vital role in endodontic, prosthodontic and restorative dentistry.

The periodontal practice is a builder of newer trends such as Probiotics, Ozone Therapy, Periodontal Vaccine, Microsurgery, Lasers, Waterlase, Stem cells, Tissue Engineering, Photodynamic Therapy (PDT), Gene therapy, RNA interference Nanotechnology, Perioprotect, Tri immune phasic therapy (TIP), Bone One Session Treatment (BOST), Use of Newer Molecules to resolve inflammation , Therapeutic approaches recently available to control inflammation and bone resorption11,13.

Recently, a number of drugs that aim to reduce inflammation and bone resorption have emerged, some of which are especially aimed at controlling rheumatoid arthritis and osteoporosis. They consist of anti-cytokine medications (Anakinra, Tocilizumab, and AMG714), TNF-inhibitors (Adalimumab, Etanaracept, Golimumab, and Infliximab), and RANK/RANKL Inhibitors (Denosumab). Some of these medications have only been used in animal trials, where they were found to have a protective effect on artificially produced periodontitis lesions14.

CONCLUSION

Periodontists encourage patients to make better decisions on treatment and increase their standard of care in the field of periodontology by providing them with accurate diagnosis, current technologies and communication about their conditions.

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