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RESEARCH ARTICLE

A NEW APPROACH TO TREAT GINGIVAL RECESSION- A CASE REPORT.

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Abstract

Gingival recession leads to exposure of the roots of the teeth creating unesthetic appearance of the teeth with elongated clinical crown. It may also be one of the cause for dentinal hypersensitivity.
Several muco-gingival surgical procedures have been proved successful and predictable; among them, the most popular is sub-epithelial connective tissue graft described by Langer and Langer in 1985. One of the main disadvantage of sub-epithelial connective tissue graft is that it needs a second wound on the palate which can cause pain and hemorrhage.
These limitations led to a search for an alternative graft material for root coverage procedures. ADM allografts were introduced in periodontal surgery in 1994 as an alternative to autogenous free gingival grafts to achieve increased attachment of keratinized gingiva around natural teeth or implants and root coverage.
This is a case report of a patient with Miller's class I who was treated with ADM allograft.

Introduction:-

Gingival recession also known as receding gums, is the exposure in the roots of the teeth caused by a loss of gingival tissue and/or retraction of the gingival margin from the crown of the teeth. It may exist with or without loss of alveolar bone)[1]. By far the most common cause is periodontitis.

The other causes include over aggressive brushing improper flossing, thin gingival biotype, self-inflicted trauma such as habits like digging a fingernail or pencil, acute necrotizing ulcerative gingivitis, abnormal tooth position such as tooth crowding, piercings in the lip or tongue that wear away the gum by rubbing against it and intentional gingival retraction.[1,2,3]

Several muco-gingival surgical procedures have been proved successful and predictable; among them, the most popular is sub-epithelial connective tissue graft described by Langer and Langer in 1985.[4] One of the main disadvantage of sub-epithelial connective tissue graft is that it needs a second wound on the palate which can cause pain and hemorrhage.

These limitations led to a search for an alternative graft material for root coverage procedures. Freeze dried acellular dermal matrix (ADM) allograft was first used in plastic surgery for the treatment of full thickness burn wounds.[5]

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ADM allografts were subsequently introduced in periodontal surgery in 1994 as an alternative to autogenous free gingival grafts to achieve increased attachment of keratinized gingiva around natural teeth or implants and root coverage.

The unique properties of ADM are that they are acellular, non-immunogenic, have uniform thickness, well adapted, easily trimmed and it requires less surgical time.[6]

Figure1:-Miller's Class I gingival recession

Figure:-2 ADM placed on a sterile gauze

Figure 3:-ADM soaked in saline

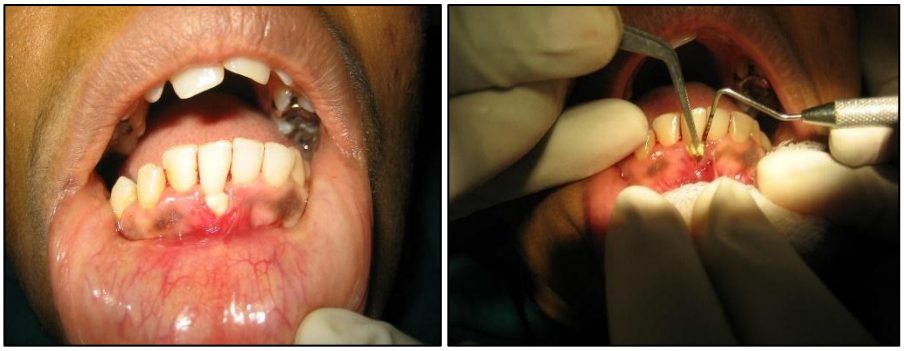

Figure 4:-ADM placed in the pouch prepared at the recession site

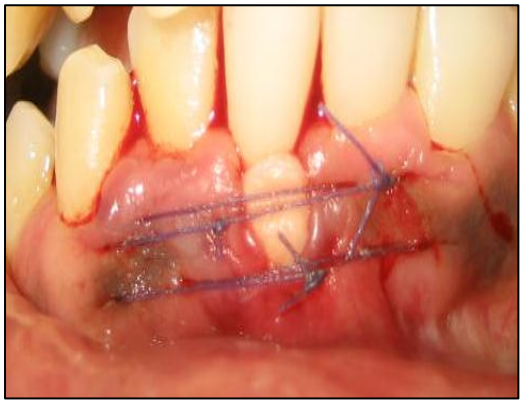

Figure 5:-ADM secured in situ with sutures

Figure 6:-Treated site 6months post-operative

Case Report:

A 28 years old male patient presented to a multispecialty clinic with a chief complaint of increased sensitivity in the lower right front tooth while drinking cold water for the past 1 year. His medical history was non contributory. A thorough clinical oral examination and periodontal charting and radiographic evaluation were performed.
3 mm × 2 mm recession was observed with respect to 41 and was classified as Miller's Class I (Figure: 1).

A pouch technique for root coverage with placement of ADM (Allo Derm, Bio Horizons) graft was planned as the recession area was small and there was adequate gingival thickness. The patient agreed to the intervention and gave a written consent. Before the surgical appointment, the patient underwent Phase I periodontal therapy which included scaling and root planing.

The patient‘s occlusion was also checked to make sure that there was no traumatic occlusion. The surgery was performed under local anesthesia (2% lignocaine with1:80000 adrenaline, Lignox 2% A, Indoco Remedies Ltd). Root planing was done and the root surface was made flat to accept the graft and to enable the graft to be adapted on the recession site (Figure: 2). It was followed by root conditioning performed with 24.5% ethylenediaminetetraacetic acid for 3 min.

An intrasulcular incision was made around the recession on the right mandibular central incisor following the shape of the recession. The pouch was prepared and made sure that there was no obstruction by the connective tissue fibers. Care was taken that there was no soft tissue tension at the site where the pouch was prepared.

The tooth surface was then thoroughly irrigated with sterile saline. ADM was trimmed according to the dimension of the recipient site. ADM was rehydrated in normal sterile saline as per manufacturer’s instruction for 20 min (Figure: 3).

ADM has two sides, i.e. the connective tissue side and the basement membrane side. The trimmed ADM was transferred aseptically and placed in the surgically prepared pouch of 41 (Figure: 4). Gentle pressure was applied with finger pressure to allow the graft to adapt on to the root surface. The graft was stabilized and secured with sutures placed on the external surface of the gingiva (Figure: 5).

Postoperative instructions were given and antibiotics were prescribed and oral hygiene instructions were given. During the postoperative period plaque control was achieved mechanically and chemically with 0.2% chlorhexidine.

The site was evaluated every alternate day for 2 weeks and the surgical site was irrigated with normal saline if required. The recall appointments of the patients were made after 6 weeks, 4 months and finally at 6 months. At each visit, oral hygiene instructions were reinforced and supragingival scaling was done if required.

Discussion:

There are various techniques for root coverage. Sub-epithelial connective tissue graft is the most predictable one. But it requires a second surgical site that increases the patient discomfort and morbidity as well as it increases the chair side time.[7] The advantage of the use of ADM eliminates the above‑mentioned drawbacks. The ADM allograft was found to be biocompatible and nonallergenic and did not produce any uneventful inflammatory response. Thus ADM may be considered as an alternative to palatal donor tissue.

The connective tissue side of the membrane was placed towards the root surface and the basement membrane surface was placed toward the flap for a predictable and effective root coverage as reported by Aichelmann Reidy et al.[8]

In the present case, there was a significant amount of root coverage. The recession depth and probing depth significantly decreased from baseline to 6 months, which correlated with the results obtained by Harris[9] and Tal et al.[10] respectively. There was a significant gain in clinical attachment level from baseline to 6 months which correlated with the results obtained by Aichelmann Reidy et al.[8],Harris.[9] and Clozzaet al.[11] who reported that they were able to obtain 100% root coverage with volumetric changes in gingival biotype after using ADM graft.[11]In the current case, 2‑mm×1mm root coverage was obtained which is approximately 70% coverage of original recession.

Color blending between the treated and untreated areas of gingiva was good as reported byAichelmann Reidy et al.[8]ADM graft is a safe, biologically acceptable material which can be used as a substitute of autogenous connective tissue graft. Nowadays patients prefer a less traumatic procedure with good esthetic outcome, which can be easily fulfilled with the use of ADM. In this case significant root coverage with a good color match between the treated and untreated areas of gingiva was obtained. More clinical studies with long term follow up are needed to prove the efficacy of ADM.

References:-

1. Gingival Recession - Causes and treatment JADA, Vol 138. Oct 2007. American Dental Association.
2. Chrysanthakopoulos, Nikolaos Andreas (2011). "Aetiology and Severity of Gingival Recession in an Adult Population Sample in Greece". Dental ResearchJournal. 8 (2): 64–70. ISSN 1735-3327. PMC 3177396. PMID 22013465.
3. Pradeep, Koppolu; Rajababu, Palaparthy; Satyanarayana, Durvasula; SagarVidya (2012). "Gingival Recession: Review and Strategies in Treatment of Recession". Case Reports in Dentistry. 2012
4. Langer B, Langer L. Sub epithelial connective tissue graft technique forroot coverage. J Periodontol 1985;56:715-20.
5. Wainwright DJ. Use of an acellular allograft dermal matrix(AlloDerm) in the management of fullthickness burns. Burns1995;21:243-8.
6. Silverstein LH, Callan DP. An acellular dermal matrix allograft substitute for palatal donor tissue. Postgrad Dent 1996;3:14-21.
7. Wei PC, Laurell L, Geivelis M, Lingen MW, Maddalozzo D. Acellular dermal matrix allografts to achieve increased attached gingiva. Part 1.A clinical study. J Periodontol 2000;71:1297-305.
8. Aichelmann Reidy ME, Yukna RA, Evans GH, Nasr HF, Mayer ET.Clinical evaluation of acellular allograft dermis for the treatment of human gingival recession. J Periodontol 2001;72:998-1005.
9. Harris RJ. A short term and long term comparison of root coverage with an acellular dermal matrix and a sub epithelial graft. J Periodontol2004;75:734-43.
10. Tal H, Moses O, Zohar R, Meir H, Nemcovsky C. Root coverage of advanced gingival recession: A comparative study between acellular dermal matrix allograft and subepithelial connective tissue grafts.J Periodontol 2002;73:1405-11
11. Clozza E, Suzuki T, Kye W, Horowitz RA, Engebretson SP.Mucogingival volumetric changes after root coverage with acellular dermal matrix: A case report. Clin Adv Periodontics 2013;4:256-62.