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RESEARCH ARTICLE

GENERALIZED AGGRESSIVE PERIODONTITIS, MULTIFACTORIAL TREATMENT MODALITIES- A CASE REPORT.

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Abstract

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Introduction:

Aggressive periodontitis is uncommon type of periodontitis affecting systemically healthy individuals with generalized interproximal attachment loss affecting at least three permanent teeth other than incisors and first molar involving individuals under age 30 with destruction which appears to occur episodically.^[3] There will be presence of minimal plaque which is inconsistent with destruction and presence of bacteria like Porphyromonasgingivalis, Aggregatibacteractinomycetemcomitans, and Tannerella forsythia are detected in plaque.^[7]

Aggressive periodontitis differentiate from the chronic periodontitis by the age of onset, rapid progression of disease, associated subgingival microorganisms, alteration in host immune response and a familial aggression.^[2] The prevalence of LAgP is less than 1% and GAP is 0.13%. In Asia the prevalence rate of 1.2% for LAgP and 0.6% for GAgP.^[8] The management of generalized aggressive periodontitis includes scaling and root planning, systemic antibiotics, surgical therapy as well as interdisciplinary approach.

This paper highlights the multifactorial etiologic factor and its treatment to restore a case of generalized aggressive periodontitis.

Case report:-

A thirty five year old systemically healthy female reported in the department of periodontics with the chief complaint of mobility in upper front tooth region since 1 month. Patient gave history of extraction of mandibular central and lateral incisors and first molars of both side at the age of twenty six due to mobility (figure 1). She was systemically healthy. Her mother lost her all teeth due to mobility in late forties. On clinical examination, midline diastema was present in maxillary anterior teeth and distobuccal migration of left central incisor. Periodontal examination revealed that there were generalized deep pockets present (figure 2). There was severe mobility present in right side of maxillary first molar, central and lateral incisors. There was trauma from occlusion with moderate mobility present in both maxillary and mandibular right side premolars, maxillary left side central incisor and mandibular right side canine. Pathologic migration with 11,21& 16,26 (figure 1). Radiographs revealed severe bone loss in 11,12,21&15,16 (figure 3). The treatment plan included scaling and rootplaning, systemic antibiotic

amoxicillin 250mg + metronidazole 250mg TID for 8 days. Splinting in 11,12,13,21,22,23, coronoplasty in 14,15,44,45 and open flap debridement with regenerative procedure to obscure the teeth was carried out.



Figure 1: pre-operative view

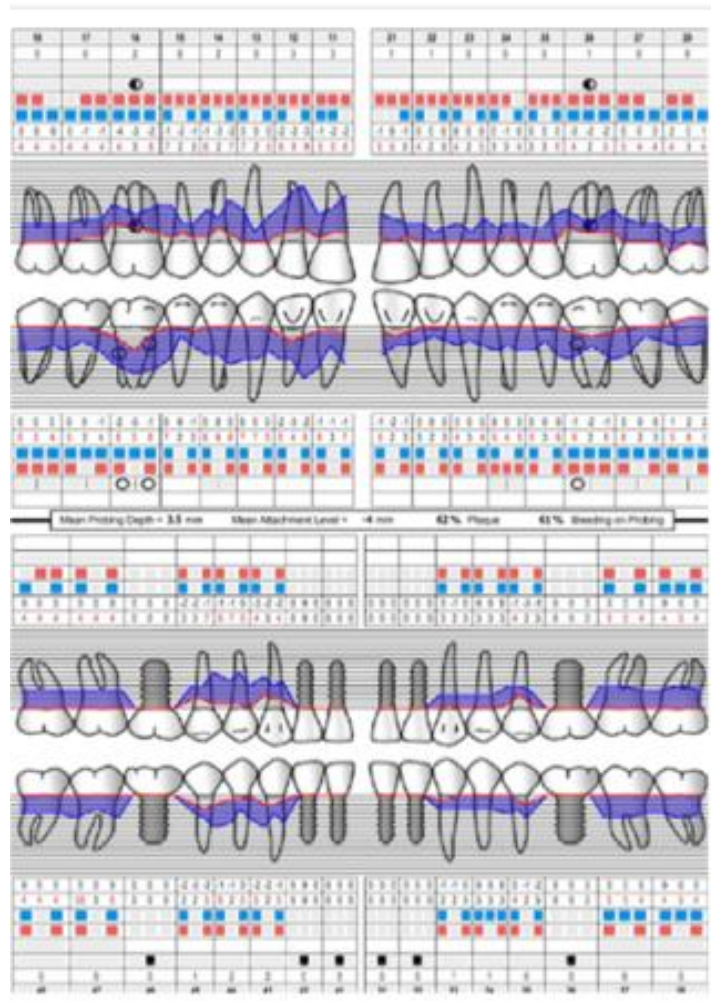


Figure 2: periodontal chart.

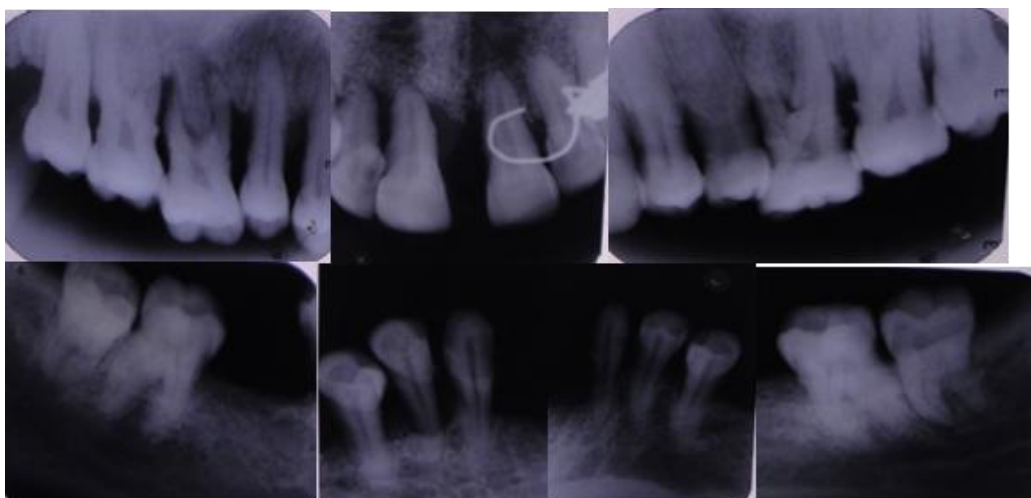


Figure 3: radiographs showing generalised bone loss.

Surgical technique:-

Mucoperiosteal flap was raised with modified flap technique. Meticulous debridement was carried out with regenerative procedure done in 11,12, 25,26 with alloplast and in mesial aspect of 47 with autogenous bone graft from the edentulous area i,r,t 46 with ochsenbein chisel and mallet. . Due to advanced bone loss and severe mobility, 16 was extracted during surgery. Interrupted sutures were taken with 4-0 non resorbable silk suture. Post operative instructions were given. (figure 4).

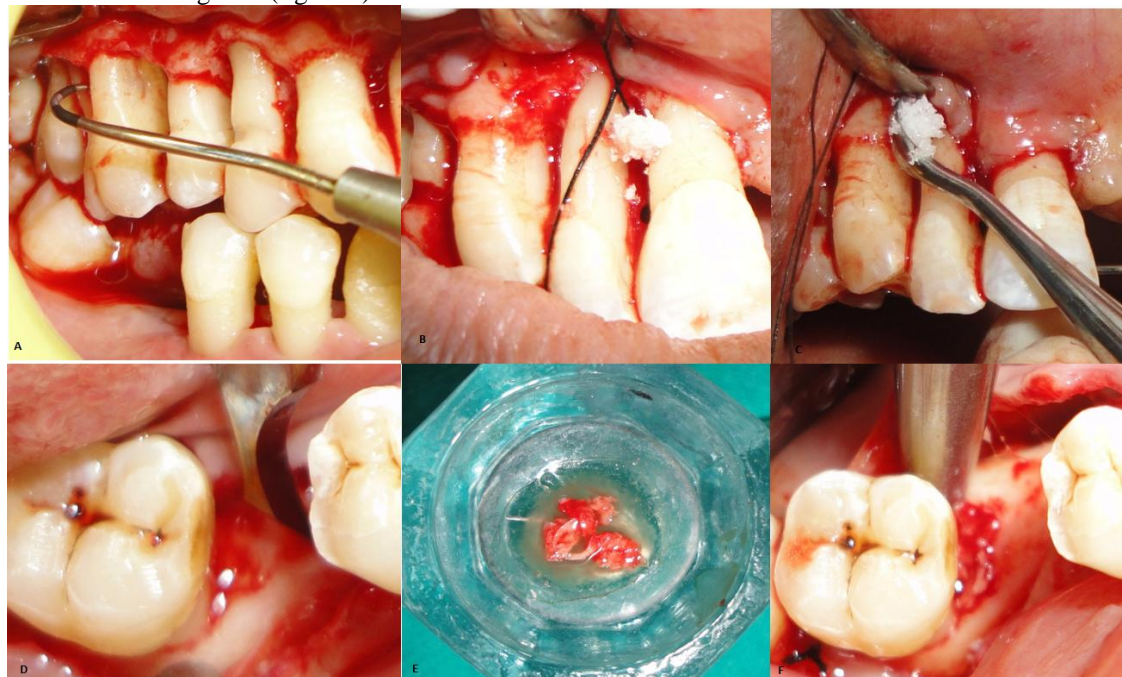


Figure 4: (A) flap reflection of maxillary right quadrant. (B,C) showing alloplast in incisors and premolars. (D) autogenous bone graft harvested from edentulous area in mandibular right quadrant with ochsenbein chisel. (E) autogenous bone harvested. (F) bone placed on mesial aspect of mandibular right 2nd molar

Patient was prescribed with ibuprofen 400mg every 8 hours. 0.2% chlorhexidine mouthwash twice daily. Proper plaque control was initiated in all the quadrants except for surgical site. Patient was recalled every month for 6 months and then every 3 months. Patient was given removable partial denture as prosthesis.

Result:-

After 1 year, there was a complete reduction in mobility in 14,15,43,44,45. Probing depth reduction was noted along with clinical attachment gain. Bone fill was observed in 11,12,21,43,44. (figure 5,6)



Figure 5: radiographic comparison after I year (G,H) showing comparison of maxillary central incisors having bone fill with alloplastic bone graft.

(I,J) showing bone fill in mandibular 1st premolar with coronoplasty and flap surgery



Figure 6: clinical view of patient with removable partial denture.

Discussion:-

Early diagnosis of GAgP helps in prevention of progression of the disease avoiding the possibility of advanced tissue destruction, alveolar bone loss and helps to retain tooth prognosis. It is important to do a periodontal examination of siblings and blood relatives of the patient because GAgP has a tendency for familial aggregation. Management of GAgP patients required a scaling and root planing, systemic antibiotic, surgical periodontal therapy and interdisciplinary therapy as well as lifelong supportive periodontal therapy.

In the present case, full mouth scaling and root planing (SRP) was completed within 24 hours to eliminate the microbial bacterial load from the periodontal pockets and remove the local etiologic factors.^[1] Chemical plaque control agents chlorhexidine gluconate 0.2% mouthwashes was given as an adjunct to the patient's mechanical plaque control measures.^[6]

Systemic antibiotics were indicated in aggressive periodontitis since the pathogenic tissue invasive bacteria like *Aggregatibacter actinomycetemcomitans* and *Porphyromonas gingivalis* have been found and mechanical therapy is insufficient to eliminate the bacteria from these sites.^[4] The preferred combination antibiotic therapy for treatment of GAgP is 250 mg of amoxicillin thrice daily along with metronidazole 250 mg twice daily for 8 days.^[9]

Surgical treatment consists of modified flap in combination with regenerative procedures. The main aim of the flap procedure was to get access and visibility to root and furcation areas so that a thorough instrumentation and

debridement can be performed. Bone grafting was carried in teeth having two-walled intrabony defects. There is higher success rate for regeneration with bone graft material in three-walled intrabony defect compared to a two-walled and one-walled defect for regeneration with bone graft material. Alloplast, (Ossify) a synthetic bone graft was used for regenerative procedure as its osteoconductive, easily available, no local toxicity or fear of disease transmission as observed in allograft or xenografts. Autogenous are considered gold standard with maximum benefit and minimum tissue reaction.^[5] But, there are limitations of obtaining it in large quantities. In this case autogenous bone was harvested from the edentulous area of 46 in form of cortical bone chips.

Patient was associated with clenching of teeth due to stress which lead to moderate mobility in right premolars along with widened periodontal ligament and angular bone loss on radiographic examination. Though, on surgical entry it appeared as shallow defect and was managed with debridement. Coronoplasty was performed in phase I therapy which lead to complete elimination of trauma and mobility after 1 year. In maxillary anteriors, mobility was controlled by splinting.

In management for theGAgP patients not only involves periodontal therapy but also incorporates a multidisciplinary approach to attend the esthetic, functional, and psychological problems faced by the patient. In this case patient removable partial denture has been given for rehabilitation of function because of patient's economical condition and poor prognosis of surrounding teeth.

Conclusion:-

Aggressive periodontitis is a rare entity requiring early diagnosis as a key to successful management employing systemic or localized treatment along with lifelong maintenance therapy. The arrest of pathogenic micro-organism along with restoration of the lost periodontal structure is the challenging aspect of aggressive periodontitis. The goals of periodontal therapy can be achieved by various modalities and interdisciplinary approach for this disease.

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