



## ENHANCEMENT OF PERI-IMPLANT ESTHETICS: A CASE REPORT

<sup>1</sup>Dr Nitin Tomar, <sup>2</sup>Dr. Pragya Singh, <sup>3</sup>Dr Mayur Kaushik, <sup>4</sup>Dr. Shivi Khattri

<sup>1</sup>Professor, Department of Periodontology and Implantology, Subharti Dental College and Hospital, Meerut, Email id: [drnitintomar@gmail.com](mailto:drnitintomar@gmail.com), Ph: 9760003695

<sup>2</sup>P.G. Student, Department of Periodontology and Implantology, Subharti Dental College and Hospital, Meerut, Email id: [pragyas24@gmail.com](mailto:pragyas24@gmail.com), Ph: 9997874767

<sup>3</sup>Prof. & Head, Department of Periodontology and Implantology, Subharti Dental College and Hospital, Meerut, Email id: [drmayurkaushik@gmail.com](mailto:drmayurkaushik@gmail.com), Ph: 9759444434

<sup>4</sup>Associate Professor, Department of Periodontology and Implantology, Subharti Dental College and Hospital, Meerut, Email id: [shivikhattri123@gmail.com](mailto:shivikhattri123@gmail.com), Ph: 9627600088

Corresponding author :**DrNitinTomar**

### ABSTRACT

**Background:** Implant-related reactive lesions of the oral mucosa are uncommon, compared with tooth-related ones. Although their pathogenesis is undetermined, local irritating factors such as dental plaque, tartar, and trauma are thought to be involved. Treatment of hyperplastic tissue in around the implants can pose esthetic challenge and decrease the confidence of the patient. Pyogenic granulomas and peripheral giant cell granulomas are reactive lesions which can occur around dental implant. But in present scenario, the patient had presented with fibrous hyperplasia around dental implant. **Materials and method:** The lesion was sectioned by scalpel for microscopic examination and complete removal of the lesion was done by electrosurgery. **Results:** The healing was satisfactory with no evidence of recurrence after the follow-up of six months. **Conclusion:** Despite their clinical similarities, the findings of this study reports that all reactive gingival lesions show some differences in age, type, location, duration and histopathological features. Nevertheless, the differing histological pictures are a range of a single lesion in diverse stages of maturation. Essential in the treatment of reactive lesions is the total removal of the lesion with local irritants such as defective restorations or calculus formation.

**KEYWORDS:** Implant, Gingival Hyperplasia,

### INTRODUCTION

According to Araujo and Lindhe,<sup>1</sup> peri-implant health requires the absence of clinical signs of inflammation (i.e. erythema and swelling) including no bleeding on probing. This determination is true to evidence from the periodontal literature that the absence of bleeding on probing is consistent with periodontal health. In clinical health, the peri-implant mucosa forms a tight seal around the trans-mucosal component of the implant itself, the abutment or the restoration.<sup>2</sup>

Esthetic for implant placement in the esthetic zone is very crucial and is paramount for determining success of implant therapy in this zone. Natural teeth are cased in periodontal ligament and alveolar bone housing. But there is complete absence of periodontal ligament around implant. This makes the implant-bone connection weaker than that of tooth-bone connection. Due to this, peri-implant soft tissues become susceptible to rapid destruction if not taken care of.

Hyperplasia of the gingival tissue also has been shown as a response to inflammatory disease of the soft tissue around implants.<sup>3</sup> Excision of that tissue can be accomplished via a

gingivectomy procedure using either a blade or a electrosurgery. Iatrogenic damage of the implant titanium surface should be avoided because it could harbor plaque and enhance gingival tissue inflammation. The present is the case of hyperplastic peri-implant tissue (HPT) (diagnosed as fibrous hyperplasia) which was treated with scalpel to be sent for biopsy and electrosurgery for the final finishing of the same. The aim of this paper is to describe a case of a fibrous hyperplasia that developed around 2 healing caps and discuss its possible pathogenesis, differential diagnosis, and treatment. The CARE guidelines<sup>4</sup> were strictly adhered to.

### **CASE PRESENTATION:**

A 19-year old female patient was referred to out-patient department of Periodontology and Implantology from a private practitioner. The patient had come with the chief complaint of enlarged gums around the implants in the front region of mouth.

After taking the complete history, it was revealed that the patient had undergone extraction of teeth as they had mobility. The implants were subsequently placed four months back. The patient was also undergoing fixed orthodontic treatment since past seven months for the correction of malalignment of the teeth. The patient did not give history of any systemic illness or any medication.

On oral soft tissue examination, there was evident enlarged peri-implant mucosa with respect to maxillary anterior region (Figure 1, 2). The enlarged gingiva was firm and fibrotic in nature. There was no sign of inflammation present.

The dental practitioner had requested for the removal of the excessive tissue around implants before the commencement of the prosthetic phase. Electrosurgical removal of the excessive tissue was planned. Part of the lesion was removed using the surgical blade to get the biopsy done. The patient was informed about the surgery and the informed consent was duly taken. Blood investigations of the patient were normal.

Surgical phase began with administration of local anesthesia. After the achievement of profound anesthesia (4% Articaine with 1:100,000 epinephrine injection solution), a section of HPT was removed with scalpel and was sent for histologic examination. Followed by this, rest of the HPT was excised with electrosurgery (Figure 3, 4, 5). All the precautions were taken not to touch the implant surface. Differential diagnosis includes pyogenic granuloma, peripheral giant cell granuloma and fibrous hyperplasia

### **HISTOPATHOLOGICAL EXAMINATION**

The histopathological examination of the tissue revealed that there was presence of dense and fibrous connective tissue.<sup>5</sup> So, accordingly the diagnosis of fibrous hyperplasia was made.

### **POST-OPERATIVE INSTRUCTIONS**

The patient was instructed to avoid toothbrushing at the surgical site for two weeks. 4-5 times mouth rinse by Povidone Iodine for 2 weeks. Post op medication was prescribed for 5 days, which included Moxikind CV 625 (Amoxicillin 500mg + Clavulanic Acid 125 mg) three times a day, Serena DP (Paracetamol 325mg + Diclofenac 50 mg + Serratiopeptidase 15 mg) two times a day, Gutcade (Probiotic) two times a day and Rabekind DSR (Antacid) empty stomach in the morning.

### **FOLLOW-UP**

The patient was recalled after four weeks (Figure 6,7). The healing was satisfactory. The patient had, then undergone prosthetic treatment (Figure 8). Patient was satisfied with the level of esthetics obtained. There was no evidence of the recurrence of the lesion when the patient was followed up at the time of one year.

## DISCUSSION

The peri-implant tissues are those that occur around osseointegrated dental implants. It can be divided into: a) soft tissues – peri-implant mucosa; and b) hard tissues. The peri-implant mucosa, just like gingiva, is consistently challenged by the oral milieu. Thus, whenever this challenge is highly weighted towards the destructive side, peri-implant disease occurs.

Hyperplastic peri-implant mucosa, though occurs rarely, but it might be instigated by dental plaque, poor oral hygiene, trauma, or ill-fitting prosthesis.<sup>6,7</sup> Fibrous hyperplasias are caused by chronic low-grade irritation, that is from dental plaque or ill-fitting dental appliances,<sup>5,8</sup> that result in inflammation and formation of granulation tissue that may progressively mature to dense fibrous connective tissue.

In the present case, none of these factors seemed to have been contributing to the development of hyperplasia. However, it might be attributed the trauma which might have occurred during the implant placement.

It becomes imperative to eliminate the etiological factor responsible for the further changes. That is why the lesion was treated and it was followed up till the period of one year. However, no recurrence was found. To prevent attachment loss and destruction of periodontal tissue, dealing with gingivitis and gingival enlargement by appropriate local therapeutic intervention is essential.<sup>9</sup> Electrosurgery can be used as an alternative to conventional surgery in gingivectomy and gingivoplasty procedures.<sup>10</sup> After non-surgical therapy, persistence of the fibrotic component was there which was then managed by surgical therapy i.e. with the help of electrosurgery.<sup>11</sup>

## CONCLUSION

Hormonal fluctuations caused by pregnancy and puberty are often unavoidable; many times, gingival enlargement can be precluded/alleviated with excellent home care and routine dental maintenance visits. When these non-invasive modalities do not result in a resolution of the gingival enlargement, surgical treatment is often needed to remove excess tissue.

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Figure 1: Pre-operative View



Figure 2: Pre-operative View



Figure 3: Gingivectomy with Electrocautery



Figure 4: Immediate Post-operative View



Figure 5: Immediate Post-Operative View



Figure 6: 1 Month Post-Operative View

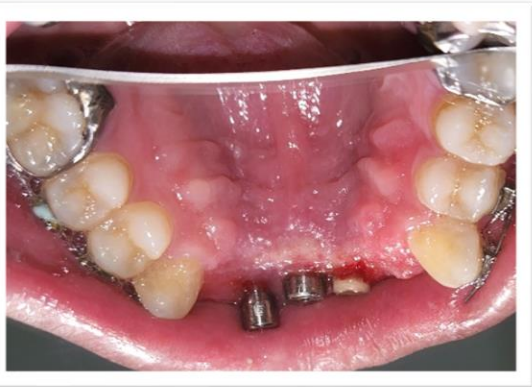


Figure 7: 1 month Post Operative



Figure 8: After crown placement