

CASE REPORT

A JOURNEY FROM MERCIFUL SMILE TO MERRIER SMILE

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CASE REPORT

A 29 year old girl presented with unpleasant smile, dental caries in multiple teeth along with Inflamed Gums. [Photograph 1- 5]

Patient gave history of orthodontic treatment started at the age of 17 which lasted for 3 years with no significant improvement in teeth alignment. During the course of the treatment lateral incisor tooth no. 12 was extracted without proper treatment planning. (Photograph 3) Patient was advised for Orthognathic surgery after improper orthodontic treatment. Patient did not accept this proposal. After 3 years patient started orthodontic treatment again , this lasted again for 3 years. Canine tooth no. 13 shifted into the space of lateral incisor tooth no. 12. It was a traumatic experience for the patient to know how the first orthodontic treatment was a disaster, and even after much compliance second orthodontic treatment did not give result that was pleasing. After 3-4 years of completion of 2nd Orthodontic treatment patient visited my clinic for routine dental check up and placement of cap on discoloured right central tooth no. 21. The Challenge was to remove block from her mind about further dental treatment and convincing for treatment for better smile.

Phase 1 Treatment

The first step was to restore her badly decayed teeth by root-canal treatment followed by restorations. Due to long phase of orthodontic treatment and negligence in dental hygiene, Multiple Maxillary anterior teeth were decayed from palatal side. Root canal treatment was done for tooth nos – 11, 21, and 22 along with Composite & Fiber- post restoration on 11 and 21. Root canal was also performed on teeth no. 17, 27, 33, followed by composite restoration.

Phase 2 Treatment

After studying patient's dental photographs of maxillary arch at 1:1 magnification and 1:2 magnification , applying simple rules/ principles of smile design, we could improved patient's without any major surgical procedure. The 1:1 magnification photo Photograph 5 was edited using Software (Photoshop) by just shaping Central incisors also length was altered.

Immediately SMILE appeared more pleasing. [Photograph 6] Later on Study model reshaping of all upper anterior teeth done by making tooth 13 to 12 (canine to Lateral incisor) and decreasing central incisor height by 4mm (Original height was – 13mm). Gingiva around the tooth was contoured and crown lengthening procedure was done to increase ht by 2mm, so final ht of incisors was maintained at 10.5-11mm. The cast Model and photographs shown to patient and proper explanation to patient, she immediately agreed for the planned treatment.

Phase 3 Treatment

Intentional Root canal was done for tooth no. 13 and 23. Periodontist Dr. Shushrut Prabhudesai performed gums contouring procedure. A day before periodontal procedure, teeth shaping and contouring was done as per study model / treatment plan. [Photograph 7-9] Next day patient underwent Periodontal treatment.

An internal beveled flap procedure was performed in order to correct the gingival architecture and re establish the biological width. [Photograph 10 and 11] Using a no 15 BP blade an internal beveled incision was made 2-3 mm from the existing gingival margin. The plane of incision was kept parallel to inter pupillary line and in conjunction with the smile line (Junction of the wet and dry portion of the upper lip) Following a full

thickness flap elevation, the attached tissue was teased out with Gracey currettes no. 1/2, 5/6. Now the marginal bone needed to be trimmed. An Ostectomy and Osteoplasty procedure was performed using Mectron Piezo surgical unit for precise bone shaping. [Photograph 12] After establishing the needed biologic width of 3 mm (distance from the newly established gingival margin to the newly determined level of alveolar crest), the flap was repositioned back using 4-0 silk sutures. [Photograph 12] Healing period of 6 weeks was decided prior to proceeding with final impressions. During the interim period temporization was done with heat cured resin crowns 21 weeks after surgery. [Photograph 13 and 14]

Phase 4 Treatment

After 6 weeks gingival health looked optimal. Due to increasing gingival height (gingival margins gone below upper lip) there was less exposure of gums and immediately inflamed gum heals properly. Final impression procedure was up taken and placed Zirconia- Ceramic crowns on 21, 11, 21, 22, 23. [Photograph 15-17] Patient was recalled after every 3 months for regular check up.

After one year follow up smile (Present Day) [Photograph 18 – 21] Challenges

- Presence of un-uniformed natural teeth.
- Complex smile.
- Badly decayed multiple teeth
- Patient's oral hygiene
- Convincing patient for Smile design procedure.

CONCLUSION

This case illustrate that if we plan restorative and minor surgical phase properly before touching patient teeth by use of software and study model, its easier to convince patient along with giving best result for patient's smile.



Photograph 1: Unpleasant Smile with Inflamed gums. Teeth proportion is not at all suites her face.



Photograph 2: Multiple caries with inflamed gums.



Photograph 3: Closer view of upper anteriors showing missing right lateral (tooth no 12), discolored 21



Photograph 4: Lower arch pre treatment.



Photograph 5: Upper arch – pre treatment.



Photograph 6: Anterior teeth height reduction in photographshop.



Photograph 7: Marking on teeth before resizing.



Photograph 8: After resizing and re shaping.



Photograph 9: Closer view of upper anteriors. tooth no. 13 made like 12.



Photograph 10: Internal beveled flap



Photograph 11: Ostectomy and osteoplasty procedure using mectron piezo surgical unit



Photograph 12: Suturing after gums surgery.



Photograph 13: After 6 week with Acrylic Crown on tooth no 21.



Photograph 14: Closer view of upper anteriors, gums inflammation reduced substantially.



Photograph 15: Final Work, showing Zirconia – Ceramic crowns on tooth no .12, 16, 21, 22,23,26 and 43.



Photograph 16: Final work, close up of only upper anteriors. Tooth 11 height reduced by 0.5mm to give facial symmetry.



Photograph 17: Final Work - Upper arch.



Photograph 18: Present day – after completion of treatment after 12 months.



Photograph 19: Present Day - retracted right lateral view showing emergence profile.



Photograph 20: Present day - retracted left lateral view showing emergence profile.



Photograph 21: Present day – closer view of upper anteriors, showing healthy gums after 1 year



Photograph 22: Present Day - Pleasant Smile



Photograph 23: Present Day – Full smile with confidence shows on face.

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