

Barun Kumar B¹ and Abhishek Singh Nayyar^{2*}

¹Department of Oral and Maxillofacial Surgery, Bharati Vidyapeeth (Deemed to be University) Dental College and Hospital, Sangli, Maharashtra, India

²Department of Oral Medicine and Radiology, Saraswati-Dhanwantari Dental College and Hospital and Post-Graduate Research Institute, Parbhani, Maharashtra, India

*Corresponding Author: Abhishek Singh Nayyar, Department of Oral Medicine and Radiology, Saraswati-Dhanwantari Dental College and Hospital and Post-Graduate Research Institute, Parbhani, Maharashtra, India.

Received: November 17, 2018; Published: August 22, 2018

This is a beautiful case of a patient who reported to the Outpatient Department with a deep-seated, lacerated wound on the lip apart from several minor abrasive injuries over the entire maxillo-facial region. The patient was conscious, well-oriented to time and place and very cooperative for clinical examination. On history elicitation, the patient gave a history of fall from a bike, a road transport accident (RTA) following which the patient along with the attendant rushed to the Centre for needful. On palpation, though the patient was found anxious and responded with pain, there was no clear-cut evidence found of any bony fracture in the maxillo-facial region which was later, also, confirmed by the orthopantomograph (OPG) of the patient and the other requisite views of the patient taken immediately after the clinical examination including a para-nasal sinus view and several intra-oral peri-apical views as per the indication to check evidence of any minor, dento-alveolar fractures in the concerned regions. The intra-oral peri-apical radiograph of the patient in the anterior maxillary region, though, revealed Ellis class IV fracture in relation to tooth no.#11. The patient's lip was found to be badly lacerated for which healing by first intention was attempted by the vigorous cleaning of the wound area followed by induction of fresh bleeding and going for a clean, approximation of the torn tissues with support from external bandaging. The patient was given injection of anti-tetanus serum (ATS) and was prescribed an antibiotic-anti-inflammatory coverage for 7 days. The patient was kept on a regular follow-up and for periodic revaluation of the healing lip wound. Splinting was done to restrict mobility of the teeth in the anterior maxillary region. The results were found to be highly surprising on a meticulous follow-up of the patient. The healing was found to be uneventful and the patient's esthetics were, also, eventually, surprisingly, restored. The need for any surgical procedure for the re-approximation of the lacerated wound with the need for suturing was, thus, completely bypassed which has often been reported with an unesthetic scarring and retraction of the lip tissues in case it has been performed in patients with similar wounds. The present case, thus, needs a mention in the literature and highlights the success of an attempt towards inducing healing by primary union (healing by first intention) in the lacerated facial tissue which can be used in other similar wounds, if required, and permitted by the situations under a strict, anti-infective environment and with maintenance of cleanliness in the wound apart from a meticulous follow-up and periodic re-evaluation of the patients. The images presented have been acquired on follow-up of the patient on subsequent visits for reference [1-15].



Figure 1: Immediate post-trauma-facial profile view.

Citation: Barun Kumar B and Abhishek Singh Nayyar. "Primary Intention Wound Healing and Esthetic Restoration in a Lacerated Lip Wound: The Hidden Drama, The Dynamics of Healing Process and Unanticipated Clinical Outcomes". *EC Clinical and Medical Case Reports* 2.6 (2019): 284-290.



Figure 2: Immediate post-trauma closer view.



Figure 3: 4-days post-trauma facial profile view.



Figure 4: 4-days post-trauma closer view.

Citation: Barun Kumar B and Abhishek Singh Nayyar. "Primary Intention Wound Healing and Esthetic Restoration in a Lacerated Lip Wound: The Hidden Drama, The Dynamics of Healing Process and Unanticipated Clinical Outcomes". *EC Clinical and Medical Case Reports* 2.6 (2019): 284-290.



Figure 5: 4-days post-trauma closer view.



Figure 6: 6-days post-trauma facial profile view.



Figure 7: 6-days post-trauma closer view.

Citation: Barun Kumar B and Abhishek Singh Nayyar. "Primary Intention Wound Healing and Esthetic Restoration in a Lacerated Lip Wound: The Hidden Drama, The Dynamics of Healing Process and Unanticipated Clinical Outcomes". *EC Clinical and Medical Case Reports* 2.6 (2019): 284-290.



Figure 8: 6-days post-trauma closer view.



Figure 9: 8-days post-trauma facial profile view.



Figure 10: 8-days post-trauma closer view.

Citation: Barun Kumar B and Abhishek Singh Nayyar. "Primary Intention Wound Healing and Esthetic Restoration in a Lacerated Lip Wound: The Hidden Drama, The Dynamics of Healing Process and Unanticipated Clinical Outcomes". *EC Clinical and Medical Case Reports* 2.6 (2019): 284-290.



Figure 11: 8-days post-trauma intra-oral view.



Figure 12: 8-days post-trauma intra-oral view.



Figure 13: Orthopantomograph of the patient revealing no clear-cut evidence of any bony fracture and splinting done in anterior maxillary region.

Citation: Barun Kumar B and Abhishek Singh Nayyar. "Primary Intention Wound Healing and Esthetic Restoration in a Lacerated Lip Wound: The Hidden Drama, The Dynamics of Healing Process and Unanticipated Clinical Outcomes". *EC Clinical and Medical Case Reports* 2.6 (2019): 284-290.



Figure 14: Facial profile view at 4-weeks.



Figure 15: Post-trauma closer view at 4-weeks.

Bibliography

- Lorentz HP and Longaker MT. "Wounds: Biology, pathology and management". In: Norton JA, Barie PS, Bollinger RR, Chang AE, Lowry S, Mulvihill SJ, *et al*, editors. Surgery: Basic science and clinical evidence. 2nd edition. New York: Springer (2008): 191-208.
- 2. Kumar V., *et al.* "Tissue renewal, regeneration and repair". In: Robbins, Cotran, editors. Pathologic Basis of Disease. 8th edition. Philadelphia: Elsevier (2010): 79-110.
- 3. Witte MB and Barbul A. "General principles of wound healing". Surgical Clinics of North America 77.3 (1997): 509-528.
- 4. Broughton G., et al. "Wound healing: An overview". Plastic and Reconstructive Surgery 117.7 (2006): 1-32.
- 5. Harper D., et al. "The physiology of wound healing". Surgery 32.9 (2014): 445-450.
- 6. Werner S and Grose R. "Regulation of wound healing by growth factors and cytokines". *Physiological Reviews* 83.3 (2003): 835-870.
- 7. Lawrence WT and Diegelmann RF. "Growth factors in wound healing". Clinics in Dermatology 12.1 (1994): 157-169.
- 8. Pierce GF., et al. "Role of platelet-derived growth factor in wound healing". Journal of Cellular Biochemistry 45.4 (2004): 319-326.

Citation: Barun Kumar B and Abhishek Singh Nayyar. "Primary Intention Wound Healing and Esthetic Restoration in a Lacerated Lip Wound: The Hidden Drama, The Dynamics of Healing Process and Unanticipated Clinical Outcomes". *EC Clinical and Medical Case Reports* 2.6 (2019): 284-290.

- 290
- 9. Pilcher BK., *et al.* "Role of matrix metalloproteinases and their inhibition in cutaneous wound healing and allergic contact hypersensitivity". *Annals of the New York Academy of Sciences* 878 (1999): 12-24.
- 10. Smola H., *et al.* "Mutual induction of growth factor gene expression by epidermal-dermal interaction". *Journal of Cell Biology* 122.2 (1993): 417-429.
- 11. Bluff J., *et al.* "Bone marrow-derived endothelial progenitor cells do not contribute significantly to new vessels during incisional wound healing". *Experimental Hematology* 35.3 (2007): 500-506.
- 12. Diegelmann R. "Analysis of collagen synthesis". *Methods In Molecular Medicine* 78 (2003): 349-358.
- 13. Sandy-Hodgetts K., *et al.* "Determining risk factors for surgical wound dehiscence: A literature review". *International Wound Journal* 12.3 (2015): 265-275.
- 14. Robson MC. "Wound infection: A failure of wound healing caused by an imbalance of bacteria". *Surgical Clinics of North America* 77.3 (1997): 637-650.
- 15. Bucalo B., et al. "Inhibition of cell proliferation by chronic wound fluid". Wound Repair and Regeneration 1.3 (2002): 181-186.

Volume 2 Issue 6 September 2019 ©All rights reserved by Barun Kumar B and Abhishek Singh Nayyar.

Citation: Barun Kumar B and Abhishek Singh Nayyar. "Primary Intention Wound Healing and Esthetic Restoration in a Lacerated Lip Wound: The Hidden Drama, The Dynamics of Healing Process and Unanticipated Clinical Outcomes". *EC Clinical and Medical Case Reports* 2.6 (2019): 284-290.