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Application of Ora-aid in Dental Surgical Wounds



Dr. Wen/Cheng Wensheng (文/程文生)
Bachelor of Dentistry, Kaohsiung Medical University
Director of Elephant Dental Clinic, Kaohsiung City
Diplomate of ICOI
(International Congress of Oral Implantologists) (2012–present)

The success of dental surgery depends not only on the proper execution of the surgical procedure itself but also on post-operative wound care. Good post-operative wound care can reduce pain and lower the risk of infection. Common dental procedures such as tooth extraction, crown lengthening, soft tissue augmentation, and alveolar bone preservation surgery all have established methods for post-operative wound management. However, there are many aspects of wound care that can be improved to increase efficiency and make the healing process smoother.

Using tooth extraction as the most common example, the most critical aspect of wound care is achieving hemostasis (stopping the bleeding). Typically, patients are instructed to bite down on gauze for about an hour to apply direct pressure to the extraction site until bleeding stops. Post-operative care after extraction is related not only to pre-extraction conditions but also crucially depends on whether the blood clot in the extraction socket remains stable. While biting on gauze helps stop bleeding, it's necessary to maintain this position for an hour without talking; removing the gauze too early may also remove part of the blood clot.

After gauze removal, the extraction wound is directly exposed to the oral environment, facing various challenges. Excessive fluid consumption, excessive mouth rinsing, and smoking can all cause the blood clot to dislodge. According to the literature, dry socket generally occurs at a rate of 3.8% in non-smokers, while the incidence rate in smokers reaches 13.2%. Besides the effects of nicotine, the act of inhaling while smoking is also related to this complication. (1)

The development of new biomaterials has promoted improvements in medical techniques and greatly benefited wound care. Ora-aid, a biomaterial introduced to Taiwan in recent years, provides significant assistance for dental surgical wound care and has substantially changed the method of post-operative wound protection. It is more efficient and makes the healing process smoother (Fig. 1-1). According to research literature, Ora-aid can accelerate oral wound healing by increasing hepatocyte growth factor levels while maintaining other healing markers such as osteoprotegerin.(2)

Ora-aid comes in two sizes that can be selected according to clinical needs. The package contains a soft, transparent plastic patch with a white adhesive material on one side. This material is a cellulose derivative that can adhere to the wound surface (Fig. 1-2). The manufacturer originally recommended securing the outer edges with sutures after application. However, clinical experience has shown that with the manufacturer's recommended method, Ora-aid easily detaches and disappears within a few days (Fig. 1-3).

Later improvements to the fixation method have allowed the material to remain in place longer, efficiently completing the fixation process and saving significant clinical operation time. The following clinical cases will explain personal operation methods, clinically observed effects, and patient feedback.



Quantity	20 ea	20 ea
Color	Red	Mint
Size	25x15mm	50x15mm

Fig. 1-1: Ora-aid is available in two sizes for selection.



Fig. 1-2: The white adhesive material has one sticky side.



Fig. 1-3: The manufacturer recommends securing Ora-aid with sutures on the outer surface. (The image and English explanation below are examples from the manufacturer's website)

"Fixation sutures to keep the Ora-Aid patch in place until soft tissue proliferation will bridge the exposed gap"

After extracting tooth #45, gingival examination confirmed no infection or inflammatory tissue in the extraction socket. An appropriately sized Ora-aid was cut and applied to the extraction socket surface, extending it to the buccal side. Next, flow resin was applied over the adjacent teeth and light-cured to form a small occlusal surface. Care must be taken to ensure the flow resin on top of the Ora-aid does not have sharp edges. If sharp edges exist, they should be removed and light-cured again for about 1 minute. This method allows for immediate hemostasis without the need for biting on gauze. Patient response was very positive with minimal discomfort during recovery. When the patient returned later for a check-up, Ora-aid was still partially present under the flow resin. (Fig. 2) (Fig.3)

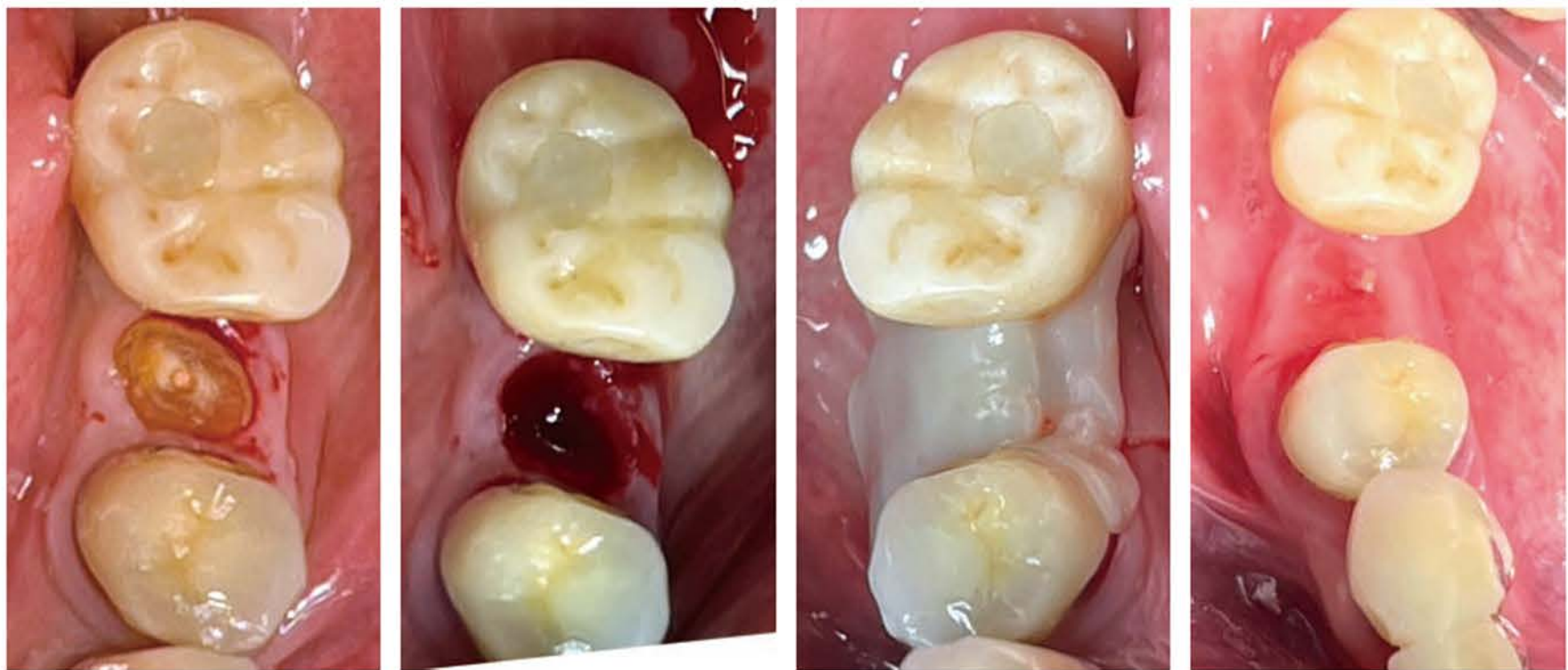


Fig. 2, Tooth #45 extraction, after wound confirmation, Ora-aid was applied and the exterior was secured with flow resin connecting to adjacent teeth. After light-curing, a small occlusal surface stabilizes the Ora-aid. The left two images show immediate post-extraction, and the right image shows the 2-week follow-up.



Fig. 3, In area #46, after light-curing the flow resin, sharp edges may form, which need to be removed and the sharp edges re-light-cured.

The patient is a heavy smoker, whose nicotine intake and suction movements during smoking increase the risk of developing dry socket after extraction by 3 times compared to non-smokers. Ora-aid was used to cover the extraction socket using the same method as in Case 1. After removing Ora-aid, the blood clot can be observed but is not in the best condition. Nevertheless, at minimum the bone was not exposed, there was no headache or external pain, and no development of dry socket. (Fig.3 & Fig.4)



Fig. 4. This patient is the same person as in Fig. 3. The patient is a heavy smoker, and after removing Ora-aid, the blood clot is maintained but not in optimal condition. However, at minimum the bone is not exposed, and no dry socket developed. The left image shows 7 days post-extraction, and the right image shows 21 days post-extraction.

Ora-aid can also be applied in crown lengthening cases. The patient had severe wear on four mandibular incisors and the left mandibular molar (Fig. 5). He desired treatment to improve aesthetics and address issues with food mastication. Clinical evaluation indicated the need for crown lengthening and intentional endodontic treatment. After completing crown lengthening on the mandibular anterior teeth, Ora-aid was cut into a comb shape and applied to the interdental and gingival wounds. Next, flow resin was used to cover the interdental spaces and adjacent teeth, light-cured to form a small comb-shaped occlusal surface. This provides immediate hemostasis. When the patient returned 9 days later, there was no bleeding, and the Ora-aid could still be seen under the flow resin. The patient experienced no discomfort during recovery, and the teeth were not sensitive. (Fig. 5)

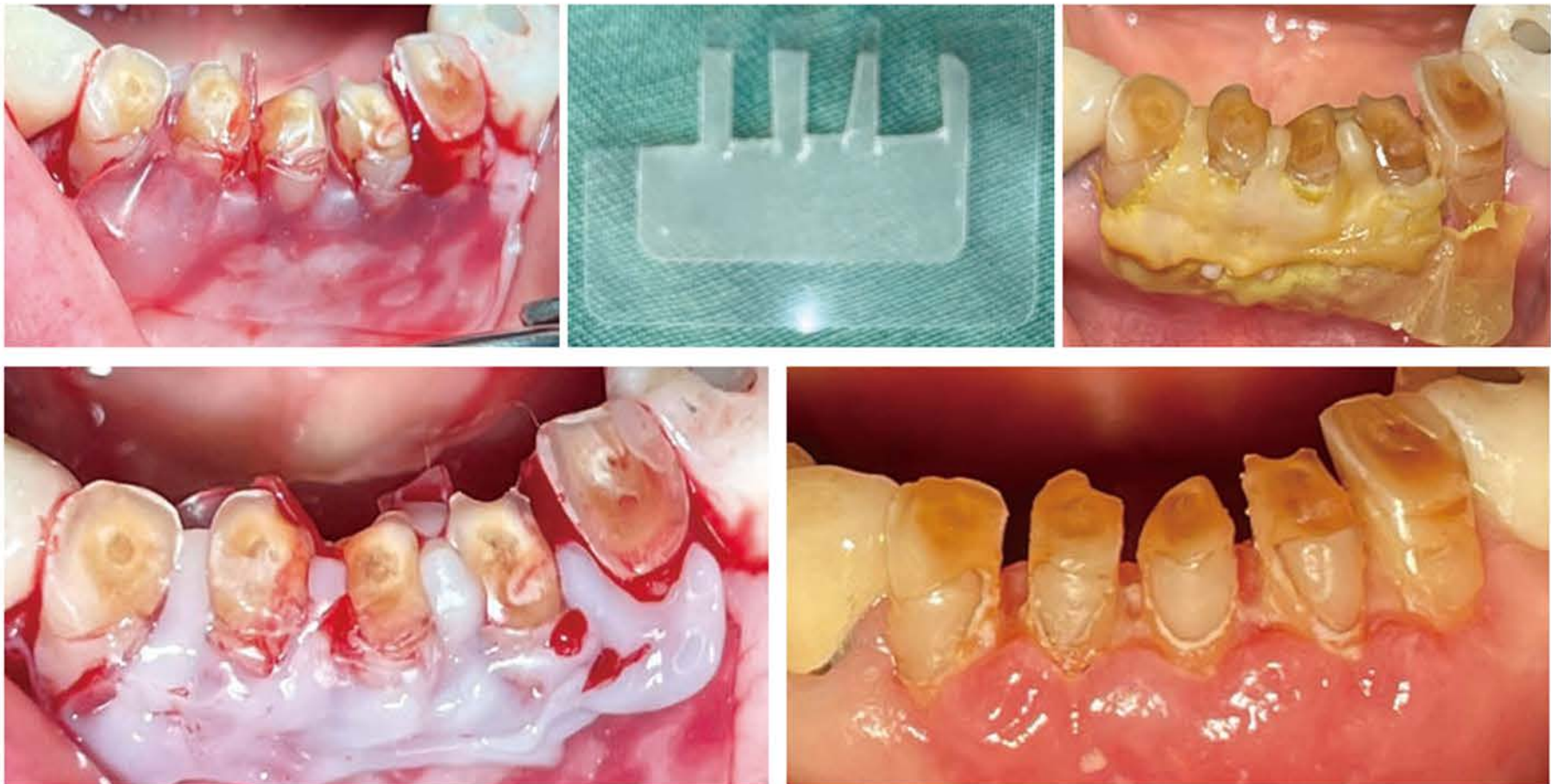


Fig. 5. Ora-aid was cut into a comb shape and applied to the interdental and gingival wounds. Next, flow resin was used to cover both the interdental spaces and lateral aspects, light-cured to form a small comb-shaped occlusal surface. This is called the comb-shaped technique.

When performing soft tissue augmentation surgery, Ora-aid can also be used to protect the donor site wound. If the donor site is in an edentulous area between teeth, the small occlusal technique from Case 1 can be used. If the donor site is on the hard palate, the comb-shaped technique from Case 2 can be applied. Finally, if the donor site is in the tuberosity area, it can be treated using the method shown in Fig. 6.

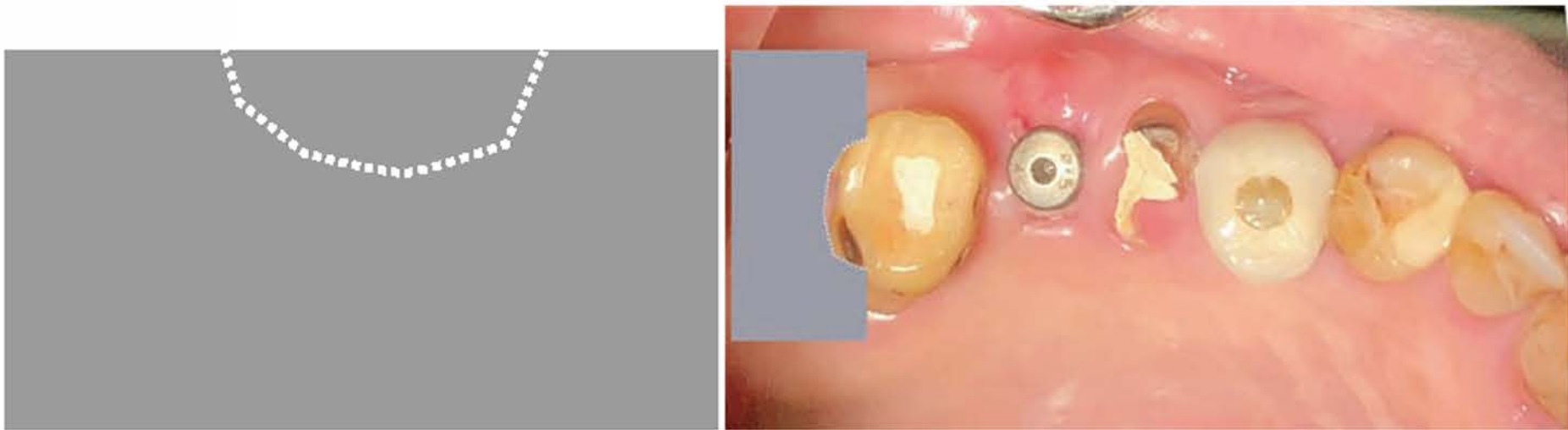


Fig. 6. If the donor site is located in the tuberosity, after harvesting tissue as indicated by the dotted line in the upper left image, it can be fixed to the adjacent teeth using light-cured flow resin as shown in the right image. This method is very effective.

The final case involves teeth #15 and #16 that were severely damaged and could not be preserved. The patient desired alveolar ridge preservation for future implant placement. After CBCT image evaluation, it was decided to perform alveolar ridge preservation using the IGP (Inverted Gingival Pouch)(3) technique. During the procedure, there was insufficient tissue at site #16, making primary closure impossible. Ora-aid was applied to the #15 extraction site to protect the bone graft material and blood clot.

The conventional method is to position a transparent plastic sheet over the wound and secure it with multiple sutures. In this case, four corners were fixed with sutures. At the post-operative visit, the soft tissue was completely closed with no evidence of bone graft material loss. A CBCT scan taken 3.5 months after the alveolar ridge preservation surgery showed good bone formation.

This case represents an early application of Ora-aid; if encountering a similar case now, the small occlusal technique could be used to secure Ora-aid more efficiently. (Fig. 7)

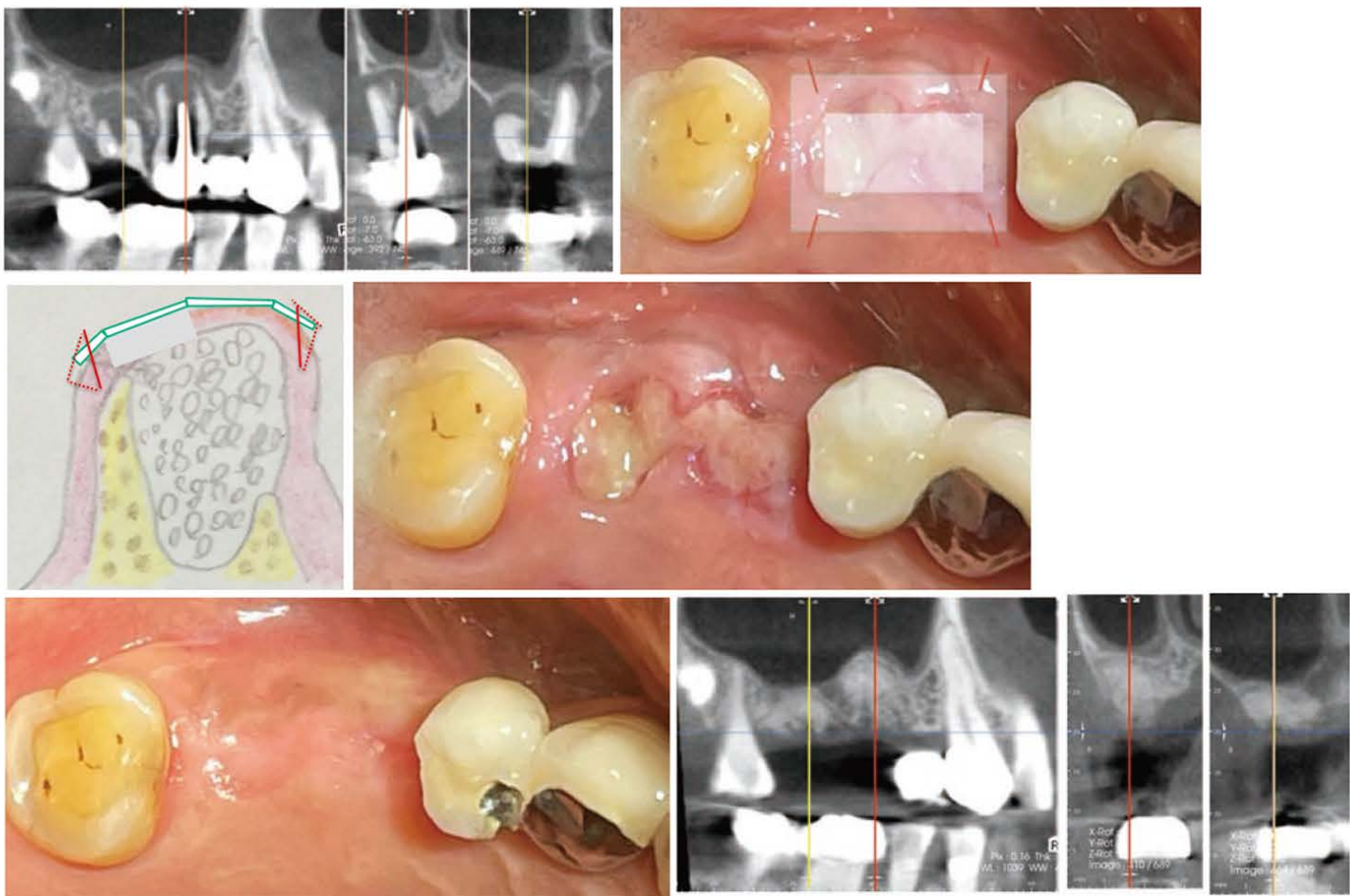


Fig. 7. Application of Ora-aid in alveolar ridge preservation. The lower right images show good bone formation at 3.5 months post-surgery.

The author believes there are many more potential applications for Ora-aid and looks forward to the development of additional usage methods in the future. It is hoped that these personal clinical experiences will benefit fellow physicians.

References

1. Ku nierek W, Brzezi ska K, Nijakowski K, Surdacka A. Smoking as a Risk Factor for Dry Socket: A Systematic Review. Dent J (Basel). 2022 Jul 1;10(7):121. doi: 10.3390/dj10070121. PMID: 35877395; PMCID: PMC9317683.
2. Effect of novel ora-aid intraoral dressing on salivary healing markers in smokers with tooth extraction: A randomized controlled clinical study A. H. Al Jothery · H. E. Al-essa · A. Al Agele June 2024 · Romanian Medical Journal 71 (2):121-126 DOI:10.37897/RMJ.2024.2.9
3. Gingival Revitalization by Inverted Gingival Pouch (IGP) Technique vol. 9 No. 8 JIACD