Immediate implant placement long term success: a case report

Soft tissue biotype was previously called gingival biotype or gingival biotype (OLSSON & LINDH / 1991), but since the advent of implants, this has been renamed to encompass tissue around both teeth and implants (Kan & al / 2005). The term refers to a composite or aggregate of four features of the soft tissues and the teeth they surround that build up to a specific picture: gingival width (keratinized tissue width) - gingival thickness (thick or thin) - papilla height and proportion - crown width and height ratio. This thin scalloped periodontal biotypes (Fig. 1 & 2) are characterized by:
- highly scalloped soft tissues and bone contours - delicate and friable soft tissues - narrow band of keratinized tissue - thin bone with dehiscences and fenestrations - long-pointed teeth whereas flat periodontal biotypes (Fig. 3 & 4) are present:
- relatively flat soft tissues and bone contours - dense and fibrotic soft tissues - wide band of keratinized tissue - thick bone with ledges - short blunted papilla - square teeth. This detection is important more particularly to prevent aesthetic complications. Inflammation generated by accumulation of plaque on the root surface extends into the tissue distance of 2 mm in all directions (Kan & al / 2010):
- concerning thin biotypes, the distance from the root surface to the oral epithelial surface can be less than 2 mm, inflammation will involve all the structures (cementum, periodontal ligament, bone and gingiva) rapidly resulting in a recession. Bundles bone (lamina dura) is very likely to be the buccal plate we can expect considerable collapse of the socket, resulting in a contour deficiency; bone grafting and compromised position / augmentation of the implant, especially if patient is getting implant treatment in the aesthetic zone.

Concerning thick biotypes, due to a thick alveolar housing around the teeth, the 2 mm radius of inflammation will damage cementum, ligament and bundle bone only, producing a periodontal pocket. Patients may end up with less alveolar deficiency; restorative treatment can be viewed as being more predictable and less demanding. Peri-implant tissue health seems to depend to there being immobile keratinized tissue around the emergent restoration:
- thin peri-implant soft tissues seems to be more prone to recession and less likely to develop nicely formed papillae around implant restaurations.
- tissue recessions around implants seems to result in absence of immobile keratinized tissue more quickly than around natural teeth, possibly because the shoulder of most implants are placed more apical to the cemento-enamel junction of the teeth they replace.

In case of immediate implant placement, the management of the implant position, it is also very important to consider tissue volume for prosthetic manipulations, you will have the possibility to remove the superstructure in order to treat an eventual peri-implantitis.

Before to restore the implant with a final crown we took note of considering the latest recommendations concerning cementation on dental implants (I.T.I / 5th Consensus 2013):
- after bone level implants placement, if the depth of the mucosal margin is deeper than 1.5 mm, screw-retained prosthodontics are highly recommended,
- reduce the quantity of cement used to cement prosthetic restorations,
- if the patient has been treated previously for periodontal diseases, use only temporary cement, you will have the possibility to remove the superstructure in order to treat an eventual peri-implantitis.

At the time of the final restoration, it is also very important to keep in mind predisposing factors leading to cement retention around dental implants:
- the soft tissue connection around dental implants (epithelial adhesion with hemidesmosomes and absence of connective tissue attachment) which is different from natural teeth (epithelial attachment and connective tissue attachment),
- the subjungival placement of the implant more or less deep than the cemento enamel junction of the natural teeth,
- the abutment selection: abutment with a fixed restorative margin 2-5 mm to the implant neck or one-piece implant with a built-in restorative margin,
- the radiographs are unable to show the presence of retained cement on buccal and palatal / lingual sides,
- the cementation issues: excessive quantity and unsuitable type of cement used,
- the maintenance controls not always respected by a majority of patients.

At the end of a period of healing of 10 weeks, we can see the very good positioning of the soft tissues (Fig. 11), the implant has been exposed (Fig. 12), the depth of the sulcus was more...
Versailles Dental Clinic team and guests along with other distinguished guests attended the Gala Dinner. The last pictures showed the aesthetic result after 5 years (in 2015), aesthetic expectations of the patient have been fulfilled and we can consider that the patient has also succeeded in rehabilitation on a functional point of view (Fig. 14, 15 & 16).

Conclusion

Soft tissue and bone management will have to be done after a complete evaluation of the ratio benefit / risk of the patient; best results will be dependent on the choice of the procedure that is most adapted to the patient.

Healing time for soft tissues as well as for bone tissue are of primary importance to obtain successful prosthodontic restorations.

References

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Contact Information

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Versailles dental clinic news

By Dental Tribune MEA/CAP/Prosen

If you say French expat community in Dubai, you say Versailles Dental Clinic.

Dr. Dominique and his wife, Veronica Caron, founders of Versailles Dental Clinic in Dubai are very present in the French expat scene in the Emirates. They sponsor many French community events including the “pinacle” French Business Council Gala Dinner.

Along with other distinguished companies, Versailles Dental Clinic was the Silver Sponsor of the Gala Dinner this year.

“Supporting the French Community in the UAE and providing them and all residents of the UAE with outstanding dental care is one of our main priorities” confirms Veronica Caron.

Along with the founder of CAPPmea, Dr. Dohrina Molova, the Versailles Dental Clinic team are establishing the standards for excellence in dentistry in the region.

Fig. 9. Extracted tooth placed as temporary restoration

Fig. 10. Extracted tooth fixed using metal grid

Fig. 11. Temporary restoration after 10 months

Fig. 12. Implant exposure after 10 months

Fig. 13. Low smile with permanent crown

Fig. 14. Permanent restoration after 5 years

Fig. 15. Permanent restoration screwed retained after 5 years

Fig. 16. Radiographic control after 3 years

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