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Immediate implant in the esthetic zone: hero or villain?

14

When I was invited to write a column in this journal, from the implant-borne prosthesis perspective, I thought, “How could I ever start talking about prosthesis without quickly mentioning implants?” Among the most important steps that must be accurately followed when doing immediate implants is the correct positioning of the fixture. We’ve been repeatedly hearing that every implant placement surgery must be preceded by a thorough prosthetic planning. Unfortunately, despite the need exists and is quite true, this is not what happens in real life. I often say that,

even in the face of the most innovative technology, we, clinicians and faculty, cannot neglect the fundamental concepts and turn a blind eye to the “basics”, which, in most cases, makes a difference in the results and longevity of the works in Dentistry. Nowadays, with all the resources available, we still see implants being improperly placed, resulting in extremely difficult restorative conditions, especially when it comes to aesthetic zones. Allow me to mention a trivial example of technology and simplicity: you can use an implant with the best surface of the planet, manufactured

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with state of the art technology, but one would not be pleased with the results should this implant be placed in the wrong position! From then on, problems will have only started!

The platform of an immediate implant should be positioned about 3mm away from the ideal gingival contour, in a coronal-apical direction. This position will enable us to adequately work the emergence profile of the future restoration. From the proximal aspect, the platform should be centralized, aiming at having a good soft tissue balance between the mesial and distal areas of the prosthetic crown. From the buccal-lingual perspective, the platform should be placed closer to the palatal or lingual wall, in order to create a short space to be reconstructed

around the alveolus, between the implant and the buccal bone plate. A delicate extraction, with minimal injuries to the remaining both soft and hard tissues, and the correct three-dimensional positioning of the implant, are equally relevant as well as the alveolar preservation technique that will be applied.

The gap left between the implant and the buccal alveolar bone wall at the time of its placement should be filled with some bone grafting material, either an auto or a xenograft, associated or not to a sub-epithelial connective tissue graft to compensate for some volume loss. Otherwise, this socket will suffer a significant reduction in its structure, likely to cause an aesthetic imbalance. What is in question



Figure 1: Surgical guide manufactured based on the digital surgical planning, within mouth position.



Figure 2: Bone bed preparation.

16



Figure 3: Implant placement - first steps.



Figure 4: Periodontal probe checking the coronal-apical positioning of the implant platform. The 3mm marking should coincide with the gingival margin right after the tip of the probe touches the bases of the implant platform.

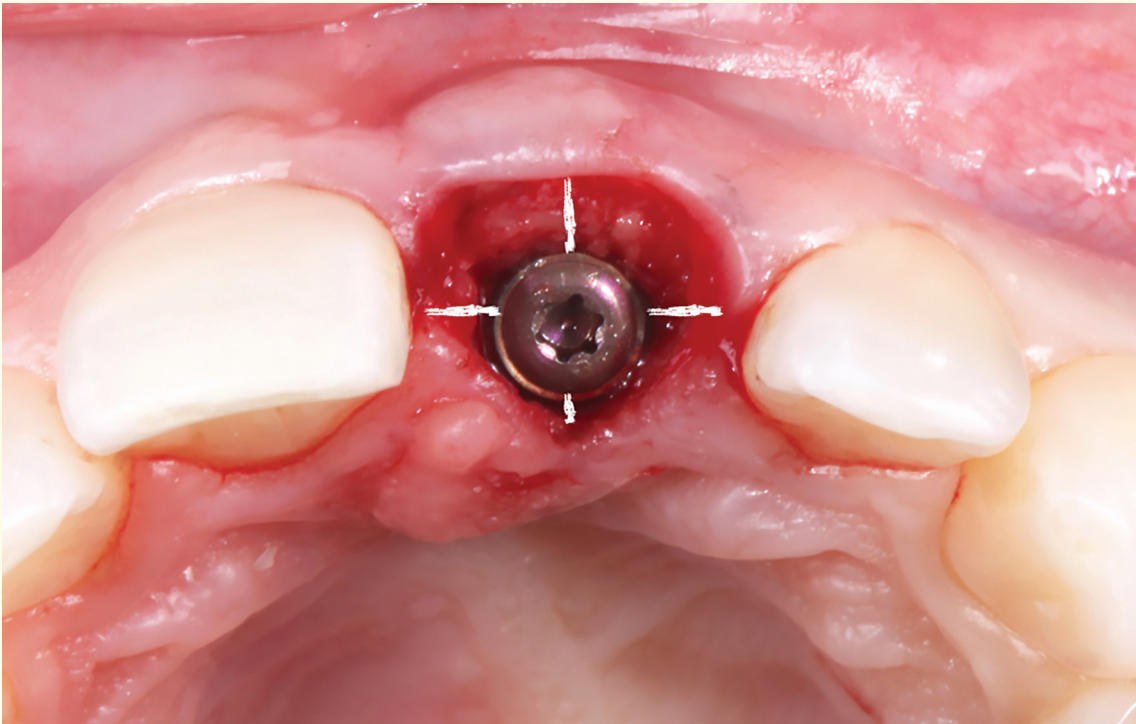


Figure 5: Adequate tri-dimensional positioning of the implant. The image shows the moment after which the gap is filled with bone grafting material.

17

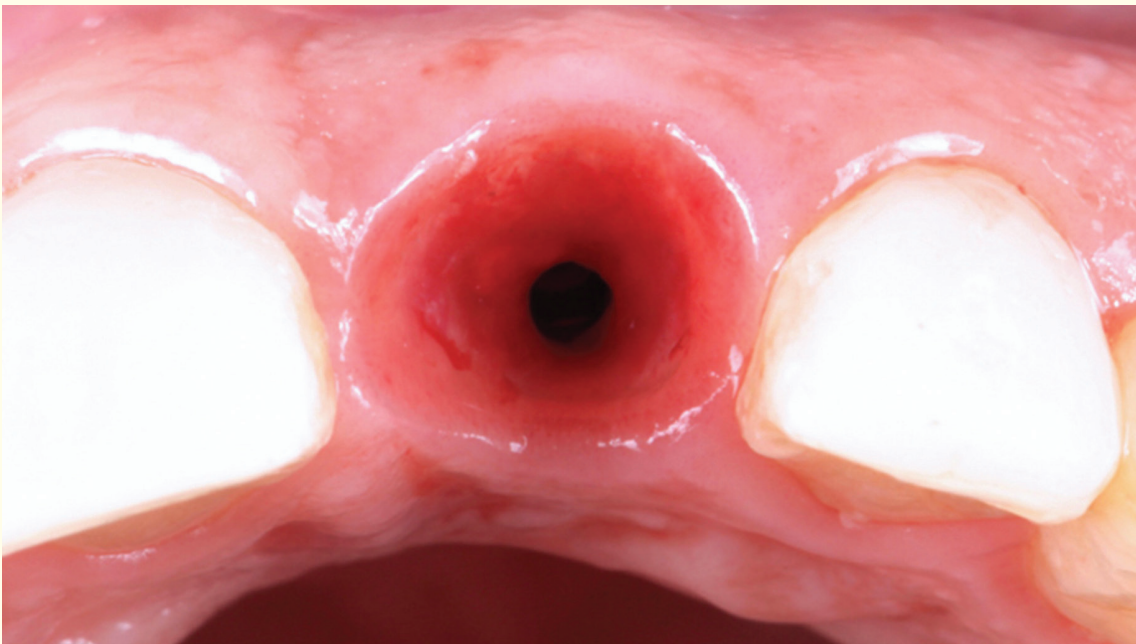


Figure 6: Four months after surgery. Precise moment when temporary crowns are being removed.

here is not which of the alveolar preservation techniques is the best, but rather the fact that any, among the plenty existing ones, should be applied. The tri-dimensional positioning of the implant will also dictate some key points, such as the type of restoration to be performed (screwed or cemented) and the volume of newly formed soft tissue in the buccal region. The platform of an implant positioned closer to the vestibular region will result in a very thin peri-implant gingival tissue, greatly susceptible to future recession and soft tissue darkening when compared to neighbouring regions. In this case, the installation of a sub-epithelial connective graft should be performed, with the purpose of increasing soft tissue thickness and avoiding such complications.

You, the reader, may be thinking: “implant placement is the simplest part!”. But, believe me, it’s one of the most challenging steps. In order for this stage to be successful, simple techniques such as the use of surgical guides can be applied. If greater accuracy is desired, the digital surgical guides, followed by the fabrication of the ones actually used in the surgery, are already available. Digitally planed guided surgery offers good accuracy and might significantly simplify the implant placement step. In order for this technology to be deployed, practitioners should send patient’s tomographic exams to the digital planning lab, together with the tomography digital file. You, our distinguished reader, who might not possess the digital technology in your office, may also enjoy

the benefits of a guided surgery. And I can give you my word: you will not regret! In my opinion, the only limiting factor to the use of this technology is the lack of a guided surgery kit in the implant system you are using. In such cases, one can resort to the simplified guides, made in the lab and that use the final restoration as a reference. These templates will be adjuvants in the right tri-dimensional positioning of implants, minimizing the percentage of mistakes. Another essential stage to the success of immediate implant placement is provisionalization. But that theme shall be saved to the next edition!

By way of conclusion, I can state that if an adequate atraumatic extraction is accomplished, together with the correct tri-dimensional placement of the implant and the use of a well suited socket preservation technique, immediate implants can save the day when it comes to extracting teeth in aesthetic areas. On the other hand, should those steps fail to be followed, we can be challenged by severe gingival architecture disruptions such as gingival contour level changes, loss of gingiva volume previous to surgery and darkening of the peri-implant gingival tissue. So, how now? How can we explain that to our patient, who had a perfect gingival architecture before the surgery we performed? In such cases, no doubts that immediate implants become our worst foes, bringing many concerns and technical difficulties to reverse the situation they bring along. That is one of the reasons why we respect the fundamentals and benefit from technology. See you soon!



Figure 7, 8: Clinical result of a surgery after which the implant had been wrongly positioned and the socket preservation technique was not adequate.

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