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Anatomical shape, support and color provided by the use of an Atlantis® patient-specific abutment in gold-shaded titanium

36 year-old patient with a vertical fracture of tooth 46. The treatment plan was to extract the tooth and replace it with a dental implant using a conventional installation and loading protocol. The challenge was to restore the position of the gingival contour and the inter-proximal papillae, as for a natural tooth. In order to achieve a long term natural result, an Atlantis Abutment was selected to provide the optimal anatomical shape, support and color.



1. A vertical fracture of tooth 46. When probing, a distal narrow isolated pocket measuring more than 15 mm was detected.



2. In the radiograph, a radiolucency along the distal wall of the distal root with the typical "J" shape seen in vertical root fractures could be observed.



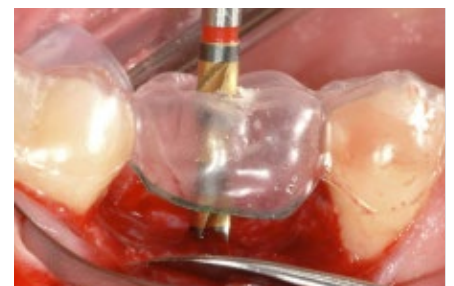
3. Tooth extraction was performed without damaging the alveolar walls. The socket was scraped and sutured without using grafting material.



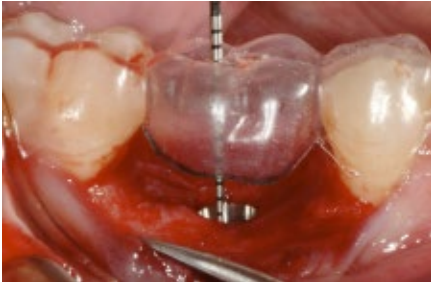
4. After 8 weeks of healing, the soft tissue over the extraction area was completely healed.



5. After 8 weeks, the amount of bone formation into the socket allowed for implant placement.



6. Using a surgical stent, the osteotomy could be performed in an adequate position in 3 dimensions, using the zenith of the cervical contour of the planned restoration as a reference point.



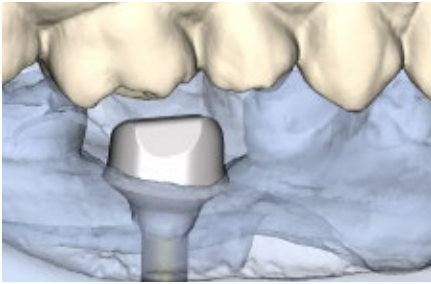
7. The implant was placed 3 mm apical to the cervical contour of the planned restoration, symmetrically from mesial to distal, and 2 mm to the lingual in order to preserve the buccal bone that will support the soft tissue.



8. A 7 mm healing abutment was placed to guide the soft tissue to an optimal healing situation.



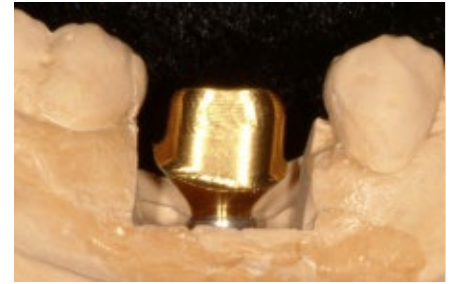
9. The healing abutment was removed after 6 weeks and a final impression of the implant position and the shape of the soft tissue was sent together with the opposing model to the dental laboratory.



10. The Atlantis Abutment was virtually designed with the emergence width of the replaced molar and manufactured in titanium with a titanium nitride coating.



11. The Atlantis Abutment in gold-shaded titanium, together with the Atlantis abutment screw, was sent to the dental laboratory.



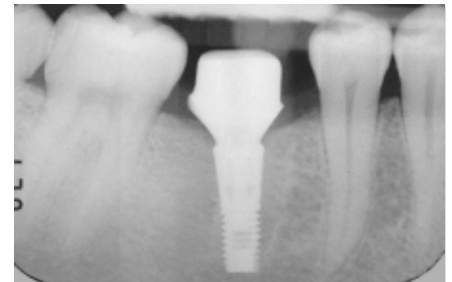
12. The subgingival portion of the abutment will give the anatomical shape, support and color to the surrounding soft tissue. The final crown restoration in zirconia was fabricated.



13. Final implant restoration with the finishing line close to the gingival margin, allowing for easy removal of excess cement in the subgingival area. The restoration was ready to be delivered to the patient.



14. The Atlantis Abutment was placed with some pressure of the soft tissue. After a few minutes, the ischemia disappeared and the abutment was seated in the correct position.



15. Verification of correct seating of the abutment using a radiographic image. Note that the transitional portion of the abutment follows the contour of the bone.



16. The Atlantis Abutment in gold-shaded titanium was torqued according to the implant manufacturer's recommendation of 25 Ncm. The screw head was covered and the crown was later cemented to the abutment.



17. After 6 years, radiograph is showing a perfect fit of the restoration, the spaces created for the inter-proximal papillae, and the position of the bone at the level of the implant.



18. After 6 years, a perfect adjustment of soft tissue around the restoration (buccal view) was observed, filling the space for the inter-proximal papillae and giving a natural position of the soft tissue contour.