Soft and hard tissue alterations around implants placed in an alveolar ridge with a sloped configuration

The selection of dental implants is influenced by the morphology and dimensions of the recipient site of the alveolar ridge. The presence of local defects or insufficient bone dimensions calls for the attention of using either resective or ridge augmentation procedures to correct the bone morphology prior to implant placement. The reasons for the appearance of bone defects of varying dimensions are many, and it is well known that the alveolar ridge undergoes extensive remodeling after tooth extraction. Data reported in clinical studies indicated that an overall reduction in the horizontal dimensions occurred following tooth extraction and that the resorption of the buccal part of the ridge was more pronounced than the lingual part (Pietrokovsky & Massler 1967; Schropp et al. 2003). Similar observations were also made in histological evaluations in an animal experiment by Araújo & Lindhe (2005). Thus, the resulting morphology of the healed alveolar ridge following tooth extraction is often presenting with a discrepancy in bone height between the buccal and lingual aspects of the ridge. Previous attempts to prevent bone resorption and thereby overcoming this problem by placing implants in fresh extraction sockets have failed, as demonstrated in experimental (Araújo et al. 2005; Araújo et al. 2005).