

Abstract

This study aimed to evaluate the frontal bone of Swiss Domestic pigs as an animal model for the histologic and histomorphometric examination of bony tissue around dental implants. We inserted SLA surface implants 4.1 mm in diameter and 10 mm in length into the frontal bones of 9 Swiss-Domestic pigs. Histologic and histomorphometric studies were conducted on the undecalcified sections. Histologic examinations showed that the specimens contain a sufficient amount of bone to provide homogenous bone coverage for standard diameter dental implant placement. The mean bone to implant contact was 61.9% \pm 8.7%. Other histomorphometric parameters revealed the regular trabecular architecture at this site. Pigs' frontal bone appears to be a suitable animal model in short-term dental implant studies because it provides a sufficient amount of bone and favorable bone microarchitecture.

Key Words: dental implants, osseointegration, animal model, histomorphometry, frontal bone