

Peri-implant bone reactions to immediately loaded implants. An experimental study in monkeys

Type:

Article

Abstract:

Background: There are reports which demonstrate that immediately loaded splinted implants can be osseointegrated when they are placed in the anterior part of the lower jaw. The concept of immediate loading has not been well investigated in the posterior mandible. The aim of this study was to evaluate the bone reactions around immediately loaded implants placed in the posterior region of the lower jaw in the monkey model. **Methods:** Six adult *Macaca fascicularis* monkeys were used in this study. A total of 36 implants were placed after extraction of the second premolars, first and second molars, and complete healing of the sockets. Three control (C) group implants were placed in one quadrant of the lower jaw of each monkey. After a delay of 3 months to allow osseointegration to take place, the implants were loaded for 1 month using temporary resin bridges and later for 2 months using metal splinted crowns. In the contralateral region of the lower jaw, 3 test (T) group implants were placed and loaded immediately with the same sequence as carried out for the C implants. Specimens were examined and evaluated histologically after sacrifice. **Results:** All of the implants were osseointegrated. Compact, cortical bone in contact with the implant surface without any gaps or connective tissue formation was observed. **Conclusions:** It was concluded that immediately loaded, splinted implants can be osseointegrated with a similar hard and soft tissue peri-implant response as delayed-loaded implants in the posterior mandible.

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