**Abstract**

**Objective**: This study’s aims were to compare the radiographic bone loss of implant-supported complete dentures submitted to immediate or delayed loading and to correlate this loss with different features of the patients involved. **Methods:** Sixty protocol model implants were selected. Thirty-two were submitted to immediate loading, i.e., within 48 hours. The remainder were submitted to delayed loading, three to six months later. Questionnaires that collected data on sex, age, location and number of implants, maintenance time and socioeconomic status were analysed. The measurements were obtained from digital panoramic radiographs (ANOVA, MANOVA; Student’s *t* test, p<0.05). **Results:** The radiographic bone loss in the models that underwent immediate and delayed loading was 2.4 mm and 2.5 mm (p>0.05), respectively; regarding sex and the location and number of implants, the results did not differ (p>0.05). The average ages of the immediate (62.8 ± 10.1 years old) and the delayed (54.5 ± 5.46 years old) protocol groups were significantly different (p<0.05). In tests examining multivariate associations with the dependent variable of bone loss >4 mm, there was association with a greater number of sites in the maxilla, older age and female sex. The odds ratio indicated that a loss of more than 4 mm was 17 times more likely in the maxilla. **Conclusions**: 1 - Well-maintained implant-supported complete denture sunder went little bone loss; 2 - there were no differences in radiographic outcomes between different techniques of rehabilitation; and 3 - there was greater bone loss in the maxilla, compared to the mandible.

**Key Words:** Bone Loss, Dental, Dental Implants, Radiography.

**Key Messages:** Immediate or delayed loading implant-supported complete dentures presented similar radiographic bone loss.