Abstract

Purpose: The Integrated Abutment Crown™ (IAC) is a technique for the fabrication of single tooth implant supported crowns where the abutment and the crown are one unit. The abutment–crown complex is connected to the implant with a locking taper. This technique does not use cement to retain the crown or screws to retain the abutment. The purpose of this study was to evaluate the clinical outcome of screwless, cementless single implant supported crowns (IACs) placed in a general dental practice.

Materials and Methods: A retrospective cohort study was conducted between July 2001 and August 2003. Patients were recalled between January and March 2004. The restorations were evaluated following the modified United States Public Health Service (USPHS) criteria. Several other variables, such as anatomic form, occlusion, soft tissue health, and reconstructive procedures, were also recorded. Descriptive statistics, univariate and multivariate marginal Cox Proportional Hazards Regression models, adjusted for multiple implants in the same patient, were used.

Results: During the chart review, 108 patients were identified. A cohort of 59 patients with a total of 151 IACs met the inclusion criteria. The Kaplan–Meier survival rate for IACs was 98.7%. Two IACs were removed, one due to implant failure; the other became loose several times and was replaced with a splinted restoration. Excellent marginal adaptation was observed with no clinically discernible interface between the veneer material and the abutment. Nine maxillary anterior IACs loosened on five patients; eight of them were reinserted and continued in function without further problems for the remainder of the study. An IAC located between a tooth and an implant was 2.65 times more likely to have postinsertion complications (p= 0.05). An IAC with incorrect anatomic form (overcontoured) was 3.26 times more likely to have postinsertion complications (p= 0.01). Maxillary anterior IACs adjacent to one tooth and one implant were 3.9 times more likely to come loose (p= 0.05).

Conclusions: The clinical outcome of this screwless and cementless system for single implant restorations compares favorably with the experience of screw and cement retained single implant restorations within the observation period.