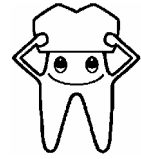


# Clinical Experiences with a new Cercon Ceramic Abutment used for Single-Tooth Replacement

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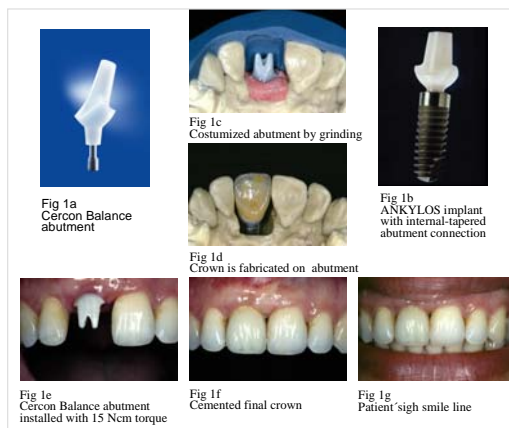


## Introduction

Restoring anterior single-tooth gaps with an implant is esthetically demanding. Conventionally used titanium abutments may cause an unnatural bluish discolor of marginal mucosa and compromise the esthetic result. Hence, for achieving perfect mucogingival esthetics and crown with natural appearance and light dynamics, there is a need for a tooth-colored individualized abutment with good tissue compatibility and superior mechanical properties. Literature provides scanty informations about the clinical outcome of ceramic abutments used for single-tooth implants. The aim of this study was to evaluate the peri-implant hard and soft tissue reaction to a new zirconia abutment for ANKYLOS implants supporting single crowns in anterior region, to investigate the esthetic outcome of the crown-abutment complex and to document mechanical problems related to the abutment during 42 months follow up.

## Materials and Methods

11 Patients were provided with a total of 12 ANKYLOS implants in the maxillary anterior region. Following second-stage surgery, a Cercon Balance abutment (Y-TZP zirconia) was selected and corrections of preparation margin and emergence profile were performed. Onto the abutments all-ceramic crowns were fabricated directly. Clinically after seating abutments the crowns were cemented.(Fig 1a-1g)



Clinical examinations were performed 2 weeks after seating, at 6 and 12 months, followed by every 12 months, included an assessment of plaque and mucosa at implants and contralateral tooth using API and sGI. Intraoral radiographs were taken. Bone level was measured at 4x magnification with integrated 0,1 mm scale. Bone loss was calculated from implant shoulder to first bone-implant contact. Treatment results were judged by the patients (note 1=excellent to 5=very bad). Descriptive statistics were used for evaluation of the data. Marginal bone level changes over the time were evaluated using U-Test.

## Results

The mean observation period for the 12 restorations was 34 months (range 18 to 42 months). The soft tissue showed stable conditions over the time (Fig 2). There was less plaque on abutments with a mean API of 0,3 (SD 0,5) compared to teeth with a mean API of 0,6 (SD 0,5) at last examination. The mean sGI was 0,2 (SD 0,4) on abutments and 0,3 (SD 0,4) on teeth at this time (Table 1).

	Crown seating		1-year		Last Exam. (mean 34 months)	
	Mean	(SD)	Mean	(SD)	Mean	(SD)
Approximal Plaque Index (API)						
at abutments	0,3	(0,4)	0,3	(0,5)	0,3	(0,5)
at teeth	0,5	(0,5)	0,6	(0,5)	0,6	(0,5)
Simplified Gingival Index (GI)						
at abutments	0,4	(0,7)	0,2	(0,4)	0,2	(0,4)
at teeth	0,3	(0,4)	0,3	(0,4)	0,3	(0,4)

Table 1: Plaque and Gingiva Indices over time



The mean marginal bone loss was -0,13 mm (SD 0,3) at crown placement, -0,23 mm (SD 0,3) at 1 year and -0,12 (SD 0,3) at last control (18 to 42 months). There were no statistic significance differences ( $p>.05$ ) regarding bone loss at different time (Fig 3,4). Only in 50% (n 6) bone level was below the implant shoulder during the follow up period (Fig 5).

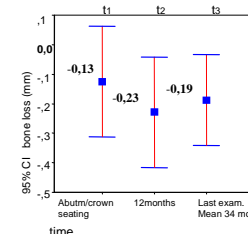


Fig 3 Radiographic periimplant bone loss

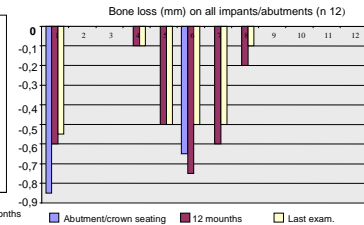


Fig 5 Radiographic bone loss for every implant/abutment

Neither fractures nor loosening of Cercon Balance abutments or crowns were observed during functional loading. The esthetic judgement of the restorations showed excellent results with a mean value of 1,1.

## Conclusion

Within the limits of this study, the new zirconia Cercon Balance abutments offer sufficient stability for single-tooth replacement in anterior region. They demonstrate esthetic advantages and a high stability of the periimplant hard and soft tissue on the implant-abutment complex after 42 months follow up.