

# A clinical case of a patient with a history of anorexia nervosa restored with all-ceramic restorations

**Dr. Bruno Fissore**

3 Avenue Saint Michel, Monte-Carlo, Monaco 98000; E-mail: [fissore@monaco.mc](mailto:fissore@monaco.mc)

Anorexia nervosa and bulimia nervosa are the most common clinically recognized eating disorders.<sup>1</sup> Both of these disorders can cause severe damage to the dentition. People with anorexia nervosa have a tendency to skip meals, adopt highly restrictive and unhealthy diets, be obsessive about food and being thin, and have abnormal eating habits. Bulimia nervosa presents as overeating followed by purging, usually by vomiting or the use of laxatives.

Unfortunately, the irreversible damage done to the enamel and dentin of the teeth, caused mainly by erosion, can be further aggravated by normal function over time or parafunctional habits. Therefore, patients who overcome their eating disorders tend to seek treatment many years after their self-destructive habits have ceased.

A 50-year-old female patient presented at our practice with the chief complaint being the esthetic aspect of her teeth. She had a history of anorexia nervosa, the culmination period of which was between 16 and 24 years of age. She was also aware of having parafunctional habits. The clinical and radiographic examination revealed that she did not suffer from periodontal disease. From the esthetic point of view, she pre-

sented with a disturbingly high smile line (gummy smile).

Anorexia nervosa, in combination with bruxism, leads to a varying degree of tooth substance loss. In this patient, most of the palatal enamel of the maxillary anterior teeth and more than 2 mm of the incisal edges of several anterior teeth had been lost. As a consequence of the attrition and erosion of the palatal surfaces and the presence of porcelain fused to metal restorations in the posterior segments of both arches, there was a significant amount of compensatory passive eruption of the maxillary anterior teeth (Figs 1 to 4).

In order to evaluate the modifications needed to satisfy the esthetic demands of the patient, an analysis of a mock-up implemented by the dental technician was done (Fig 5).<sup>2</sup> The esthetic and functional goals to be achieved were to restore correct size to the maxillary anterior teeth and to reduce the gummy smile.<sup>3</sup> To achieve this, a crown lengthening procedure exposing 4 mm of tooth structure was performed.<sup>4</sup> As a consequence, a similar amount of root surface was exposed (Fig 6). This resulted in a situation with open interdental black triangles, making the preparation of minimally invasive bonded



**Fig 1** Size discrepancy between the anterior teeth of both arches and compensatory passive eruption of the maxillary anterior teeth.



**Fig 2** Maxillary anterior teeth with reduced crown height due to erosion and attrition.



**Fig 3** Erosion and wear pattern due to bruxism on the palatal aspect of the maxillary anterior teeth.



**Fig 4** High lip line smile showing the discrepancy between the gingival margin of the anterior and posterior maxillary teeth.



**Fig 5** Open smile with the mock-up in place.



**Fig 6** Situation after crown lengthening procedure. Note the amount of exposed root surface.



**Fig 7** After about 4 months, preparation of full crowns for the four incisors, and veneers for the remaining teeth that did not already have full crown restorations was carried out.



**Fig 8** Open smile with the provisional restorations.



**Fig 9** Final crowns and laminate veneers demonstrating a good mimetism between the different types of restorations.



**Fig 10** Spontaneous open smile, showing a more attractive position of the crowns in relation to the lip line.



**Fig 11** Result at 4 years, showing the esthetic and functional integration of the restorations with the protrusion of the mandibular teeth kept intact.



**Fig 12** Result at 4 years, showing very good maintenance and stability of the soft tissue contours.

restorations,<sup>6</sup> such as laminate veneers, impossible. It also left only a minimum amount of remaining enamel on which to bond, therefore leaving most of the bonding potential to the available dentin. Furthermore, the high esthetic demands of the patient did not allow for a compromise.

All these conditions were important to a decision-making process that would result in restorations that fulfilled all the demands of the specific situation. For the anterior teeth to be the correct size and have the esthetic appearance that was desired, full coverage restorations were chosen to restore the four maxillary

incisors.<sup>5-7</sup> The cuspids and the right first premolar were restored with porcelain veneers. For those teeth, the occlusal contact was obtained by placing direct composite resin on the occluding surfaces. The existing full coverage restorations in the posterior segment were replaced (Figs 7 and 8). The material of choice for the final restorations (full crowns and veneers) was layered ceramic on pressed lithium disilicate cores (Figs 9 and 10). The esthetic and functional outcome, which was highly appreciated by the patient, was well maintained during the subsequent 4 years of observation (Figs 11 and 12).

## References

1. Lo Russo L, Campisi G, Di Fede O, Di Liberto C, Panzarella V, Lo Muzio L. Oral manifestations of eating disorders: a critical review. *Oral Dis* 2008;14:479–484.
2. Gurrea J, Bruguera A. Wax-up and mock-up. A guide for anterior periodontal and restorative treatments. *Int J Esthet Dent* 2014;9:146–162.
3. Robbins JW. Differential diagnosis and treatment of excess gingival display. *Pract Periodontics Aesthet Dent* 1999;11:265–272.
4. Hempton TJ, Dominici JT. Contemporary crown-lengthening therapy: a review. *J Am Dent Assoc* 2010;141:647–655.
5. Gürel G. Porcelain laminate veneers: minimal tooth preparation by design. *Dent Clin North Am* 2007;51:419–431.
6. Pieger S, Salman A, Bidra AS. Clinical outcomes of lithium disilicate single crowns and partial fixed dental prostheses: a systematic review. *J Prosthet Dent* 2014;112:22–30.
7. Della Bona A, Kelly JR. The clinical success of all-ceramic restorations. *J Am Dent Assoc* 2008;139(suppl):8S–13S.