Example - Accreditation Clinical Case Written Report

Treatment List: -#5-13 Direct Resin Composite Veneers
-Resin infiltration with ICON by DMG on 8, 9
-Invisalign orthodontic treatment

Restorative Materials: -Tokuyama Estelite Omega Composite
-ICON by DMG-Resin infiltration

Type of Adhesive System & Luting Agents (When Applicable): -Bisco HV selective Etch
-Optibond XTR primer and adhesive

Introduction and Chief Complaint: A 30 year-old female patient presented with a chief complaint of never having liked her smile. She stated that her family had always pointed out what a big smile she had, but she hid behind yellow, chipped, crooked teeth. She also hated the composite restoration on tooth #10 and the white spot lesions on 8 and 9. She came to me desiring a brighter, whiter, straighter smile, and was open to comprehensive treatment. She wanted to remain as conservative as possible but desired a lasting result.

History (Medical and Dental): The patient's medical history is remarkable for seasonal allergies for which she takes over-the-counter antihistamine medication.

The patient presented with a complete dentition with the exception of the third molars, which she had removed in her teens. The patient's dental history is remarkable for comprehensive orthodontic treatment with brackets as a child and Six-Month-Smiles as an adult. She was left with a class I molar relationship and excessive overjet with supererupted 22-27. The patient had mild anterior tooth wear and mild crowding. She was symptom-free in her temporomandibular joints, with no history or symptoms of sleep disordered breathing or airway issues. She had several class two composite restorations, and had root canal therapy and a crown placed on tooth #31.

Radiographic and clinical examination revealed the patient was free of active caries. Margins of the patient's existing restorations were within normal limits. The patient was periodontally stable with probing depths 3mm or less and minimal bleeding on probing. The patient presented with excellent home care.

Diagnosis and Treatment Plan: The patient was diagnosed with excessive overjet, anterior crowding, white spot lesions, chipped incisal edges, and an unesthetic composite restoration on tooth #10.

Esthetic evaluation revealed an incisal edge position that was acceptable but had room for minimal lengthening both with a full smile as well as in repose. The incisal edges of 6, 8, 9, 10, and 11 presented with wear. There was a tooth-size discrepancy between 7 and 10. Tooth #10 had an unesthetic composite restoration with poor margins and unesthetic contours. Gingival zeniths were fairly symmetrical.

The patient's initial shade was an A3, verified using the Vita shade guide. The patient desired to be in the B1 range, with a natural, bright smile. The patient's natural teeth had incisal translucency on the centrals and laterals that she wished to maintain.

Because the patient was in a class I molar relationship with supererupetd 22-27 due to excessive overjet, the orthodontic treatment plan was to level and align the anterior teeth, intrude 22-27, and regain anterior coupling via additive composite on the linguals of 6-11.

The restorative treatment plan was to treat the white spot lesions with resin infiltration using ICON by DMG in order to minimize the amount of tooth preparation required. We would remove and replace the mesial composite on #10, and complete direct composite veneers on 5-13 to improve the esthetics and fill out the buccal corridor. The patient would go through Kor in-office and at-home whitening to improve the shade of her teeth prior to completing the restorative phase.

Description of Treatment: The patient initiated Invisalign treatment for intrusion of 22-27. She is completing the final phase of Invisalign prior to having additive composite placed on the linguals of 6-11. The first phase of Invisalign treatment was on both arches. After the maxillary arch was completed, final tweaking was required of the lower arch. While the patient was in the finishing phase of the mandibular arch of Invisalign, Impressions were taken for a wax-up of 5-13 to be used as a guide for placement of direct composite.

Three months before composite treatment was completed, the patient had resin infiltration on 8 and 9. The product used was ICON by DMG. The steps included Icon etch application for two minutes, rinsing for 30 seconds, and re-application of Icon etch for two minutes, rinsing for thirty seconds, and Icon Dry to dry the teeth. Finally, penetrating resin by Icon for three minutes, removal of excess material, and light curing.

The patient completed two weeks of at-home whitening in a custom tray for the maxilla and in her Invisalign tray on the mandible with Kor whitening. She then had in-office whitening treatment using Kor whitening, with three twenty-minute

applications of hydremide peroxide. She underwent one additional week of whitening at-home to achieve her desired shade.

Six weeks after completion of whitening the patient began direct composite placement. A lab-fabricated wax-up was completed, and a lingual matrix was fabricated with Flexitime putty for use intraorally during placement.

Rubber dam isolation was used, and teeth were air-abraded with the Gromen Etchmaster using 27 micron aluminum oxide. Teeth were vigorously rinsed and 8 and 9 were treated.

An optragate was then used for isolation during composite placement. Bisco HV selective etch was placed on the facial and lingual surfaces of 8 and 9. Optibond XTR primer and adhesive was placed. First layer of composite was applied using the lab fabricated wax-up and a very thin lingual shell of Estelite Omega shade Milky White. Estelite Omega dentin shade DA2 was used to blend the edges of the teeth into the palatal shelf of milky white composite. Trans shade of Estelite Omega was used to add incisal translucency. Shade BL2 was used at the interproximal line angles, and a layer of milky white was placed over the entire facial surface. Minimal polishing was done prior to the next treatment session.

At the following appointment the same protocol was used on the laterals and canines, with the exception of trans composite on the canines which was eliminated. A third appointment was completed where teeth 5, 12, and 13 were treated with Bisco HV selective etch, Optibond XTR primer and adhesive, Estelle Omega MW, Estelite Omega DA2, and a final layer of Estelite Omega milky white as the final shade.

The patient returned for finishing and polishing. A pencil was used to mark existing line angles, adjustments were made, and silver powder was used to then highlight line angles and make final adjustments using fine diamonds and Shofu discs. Brasseler inter proximal finishing strips were used to adjust and refine inter proximal areas.

Polishing was completed using Shofu polishing discs, followed by Clincian's choice A.S.A.P. polishers, and finally with goat-haired brushes and Enamelize polishing paste from Cosmedent.

References: DIETSCHI, D; FAHL JR, N.; (2016): "Shading concepts and layering techniques to master direct anterior composite restorations: an update". British Dental Journal - BDJ Aesthetic Dentistry Series, 221(12): 765 - 771, December.

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