Bleach Cases
From dead white to natural bright

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Substituting the white opaque dentin ceramic material with a high brightness transparent effect is the secret of manipulating the 4 bleach shades (BL4, BL3, BL2, BL1), and the key factor to make them close to the natural-looking shades in our (A-D) shade guide.

(Fig 1)

The visual perception in which Opal Effect ceramic material appears to be radiating or reflect light is called luminancity, and luminance is the intensity of light that generates what we see in dental ceramic as natural white. Why natural? Because it simulates the optical properties of the natural enamel of healthy teeth.

Our following case is a very good example of producing attractive natural-looking bleach shade.

Case Presentation

A 45-year-old female presented to the clinic with an aesthetic request, she desires a smile change. Apparently she was seeking a new look on multiple cosmetic aspects, and she chooses to start at the dental studio.

The dentist interviewed her and found out what category she is seeking (esthetic), and what was her major complaint. He reported the following. Major complaint was a non-vital appearance of the current old restoration beside discoloration, which drew a pale smile on her face, and an inflammatory appearance of the surrounding gingiva. (Fig 2, Fig 3)

The patient was examined introrally, and her dental history was recorded. The radiographic exam of the upper incisors revealed a good endodontic situation. Preliminary impressions were also taken to produce a study model. The dental lab technician presented to the clinic to evaluate the old veneers condition, and grasp the patient’s needs and discuss her expectations from the whole treatment. Complete photos protocol was taken to the teeth, lips, and face, those photos were crucial during the lab working steps.

Treatment plan

The treatment plan included the following measurements:

Removing the old veneers, re-prepping the incisors and the 4 upper premolars according to the general principles of all-ceramic veneers preparation, 0.6mm chamfer was created equipping and a 0.9mm hollow reduction was necessary to allow the veneers to mask from one hand and give the desired color from the other hand, final impression of the maxillary arch was made using addition silicon Virtual (IvoclarVivadent).

Dental Laboratory procedure

The failure

According to the patient’s desire of having bleach veneers, the brightest color of IPS e.max press suitable for veneers fabrication (Low translucency, LT BL1) is used, followed by delicate cut back and layering Transpa-Incisal powders from IPS e.max Ceram.

On the day of the try-in, patient showed up to the clinic, she was excited to see the new smile. When she looked at the mirror she felt the change. (Fig 5) All the measurements of esthetic smile, from teeth arrangement to lips dynamic appeared perfect on her face. The dental team members had different point of view on the shade after taking few minutes to absorb the tried-in set. They all agreed that something still missing for the case to be aesthetically pleasing, as if all the light rays coming from inside the veneers faded down after being placed on the prepped teeth (dentist stated in privacy). Soon we realized that the discoloration of the prepped dentin continued on darkening during the 10 days lab work process. So at the day of the try-in set with the bleach shade guide held into position were important to be reviewed to find out what to do and what to avoid in the new veneer set. (Fig 6) A black and white photo was important to define the matching level of brightness, and what bleach shade we reached. (Fig 7)

Ingot selection judgment

The Success

Priority number one was masking and incisal material and characterize with variety of brighter impulsive colors from IPS e.max Ceram powders, Texturized Fig 9, glazed, then the final outcome was balanced by further manual polishing. A comparison with the failed previous set; in order to make sure that 1 succeeded boosting the luminosity level was important after transferring the dentin background of the natural prep from the patient mouth to my bench through the IPS Natural die material ND4. (Fig 10)

Cementation

Veneers were finally cemented with Bleach XL (only Base) Variolink-II resin cement (from Ivoclarvivadent), after they have been tried-in and all seating and

Fig 1. Bleach shade guide, (Ivoclarvivadent A-D shade guide)

Fig 2. The pre-operative situation

Fig 3. The pre-op situation reflecting the non-vital appearance of the old veneers and the surrounding gingiva

Fig 4. The degree of discoloration of the prepped dentin according to the ND shade guide

Fig 5. The patient checking her smile with the first set of veneers

Fig 6. The non-vital appearance of the first set of veneers centrals on the day of Try-in

Fig 7. The low value of the first set of veneers compared to the bleach shade guide in a B&W photo

Fig 8a, 8b. Masking test of the MO0 ingot shells

Fig 9. The texturized veneers on the control (non-segmented) model

Fig 10. A comparison between the LT BL3 veneer and the MO0 veneer
Relative translucency level

The level of translucency was kept minimal relatively to the patient age and shade whiteness chosen by her, as our priority was to mask and boost the brightness, and brightness and translucency contradicted to a certain extent, though translucency kept relatively minimal. (Fig 12)

Color restriction

What makes bleach cases more complicated is color restriction, as in our present patient case, she wants to keep the old lower veneers that she had before, and replace just the upper with a brighter and more vital shade of bleached veneers, so we are obligated here to keep a chromatic shade matching especially on the cervical part of the upper veneers with the lowers, and increase the level of brightness in the mid-third of the upper veneers than that of the lowers. (Fig 15)

Personality change

What we simply did was changing not just the patient smile literally, but changing the smile on her face emotionally, the feeling that she can look younger pushed her to continue working on herself, and that appeared clearly on each follow-up visit to the clinic she was making, one time skin was taken care off, the next time hair and make-up, then back again to the smile to contour it with a better frame of lips by using fillings. (Fig 14) So what we did is that we put her on the beginning of the cosmetic track, (a year after the dental treatment she looked one year younger) what dentist stated. So we contributed to change her life.

Dental Photo shooting

Our patient has a photogenic face and she didn’t mind to be our model for a few photo-shooting sessions, which encouraged us to take all possible poses that showed clearly the strength areas and talent in fabricating such cases, some snakes with different color contrast were used to show the optical properties of the translucent opal and bright Mandoline material used. Thanks to the expert Mr. Florin Stoiboran from Romania who helped in the final photoshoot. (Fig 15, Fig 16, Fig 17)

Conclusion

A decision to repeat the veneers with a new brighter set of veneers was faithfully taken (after recognizing that a flawless set can be taken into considerations). The honest and ethical opinion of the dental teamwork (what we did was okay, but we can do better), even if the patient okayed the present outcome. This is what really takes the level of esthetic dentistry to the next level.

I would like to thank Dr. Duval Aloushi for his faithful opinion and esthetic vision that played a big role in the successful outcome of this case.

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