COMMENTARY

An Introduction to the Implant Crown with an Esthetic Adhesive Margin (ICEAM)[1]

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When the current form of implant dentistry was introduced in North America at the Osseointegration conference in Toronto (1982), there was little if any discussion of using implants for the single tooth application. At the time, the discussions concentrated on patients that had significant residual ridge resorption and needed implant-based support and retention for prostheses to be successful clinically. Initially, screw retained crowns were developed using the existing antirotational mechanisms of the implants, and this effort met with relatively high loosening rates. The quality of the antirotational component of the restoration improved as did screw technology, and this, coupled with the development of torque drivers, allowed for very predictable restorations. This allowed for cemented restorations to be placed with confidence.

Unfortunately, once the cementation protocol became popular, the issues with it became evident. Problems of retained cement and periodontal and peri-implant inflammation, abutment loosening, etc. became an issue in many practices. The cemented crowns looked good and did away with access holes, but the other issues became more prevalent as more and more people used the cemented protocol.

The concept of making cement cleanup an easy process is a good one and is clearly illustrated in this paper. If instituted, many soft tissue issues would be avoided. Studies have shown that the vast majority of implant restorations, when fabricated with subgingival margins, especially deep ones, have remnants of cement left over after apparent cement cleanup. These remnants cause significant problems and is one of the reasons that the "amorous affair" with cemented restorations has waned and more people have returned to the screw-based restoration.

The authors present a clever method whereby a zirconia abutment can have marginal area beefed up with pressed ceramic so as to create a supragingival margin. The cemented crowns are then made to fit this supragingival margin, so that there is a clear flow of emergence profile, marginal contour, and the color is carried from the post to the crown, so there is no perceived color shift between the two materials. Then, by etching, silanating, bonding, and cementing, the materials are effectively bonded to each other, so that there is no gap or esthetic consequence at least at the time of crown placement.

The bonded cementation provides a permanent (long-term) bond of the restoration to itself, and future removal or separation of the crown from the abutment would be complex rather than simple. These cemented crowns become retrievable only by use of dental bur and handpiece.

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The advantages of this method include the fact that it allows for up to 1.5 mm of soft tissue recession before the actual abutment color is seen. During this recession, there would probably be no patient objections to the recession because it does not really become evident due to no difference in color. The second advantage is the easy assessment of crown seating since the margins are easily seen during the process. The abutment post has taken up the emergence profile requirements of the restorations, and as such, cementation is significantly simplified because there is no need to push on the tissue if added emergence profile is needed.

The method could be simplified by considering using a zirconia post that is colored to be very close to the abutment crown. The zirconia could be brought out to the margin, and there would not be a need for the secondary porcelain application to the abutment post. One must remember that the zirconia must be thick and hefty enough to maintain its strength and not have the added margin weaken it. There may be some cases in the lower anterior region or in cases of narrow lateral incisors where this method, as shown, may not work because of space limitations.

In the future, the aesthetics and strength issues may be improved to the point where abutment and crown may be of the same material (either zirconia or lithium disilicate). This allows us to skip the step of adding a porcelain margin by pressing to the abutment.

Once again, the authors must be commended in submitting this method to the test of peer review. I thank them for their efforts.

REFERENCE

1. Wadhwani CPK, Piñeyro A, Akimoto K. An introduction to the implant crown with an esthetic adhesive margin (ICEAM). J Esthet Restor Dent DOI 10.1111/j.1708-8240.2011.00473.x.

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