

Protection of Dentin Collagen by Hesperidin Applied to Adhesive Dentistry

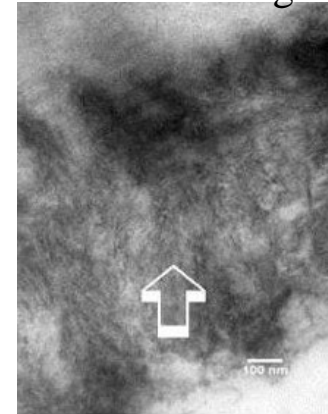
Experimental Methods

A primer containing hesperidin was applied to dentin tooth surfaces after caries removal. The dentin was restored with adhesive resin and stored for 1 day and 1 year. Adhesive strength was measured by tensile test and adhesive interface was observed by transmission electron microscopy. Long-term durability was improved by hesperidin.

TEM images at 80,000x magnification

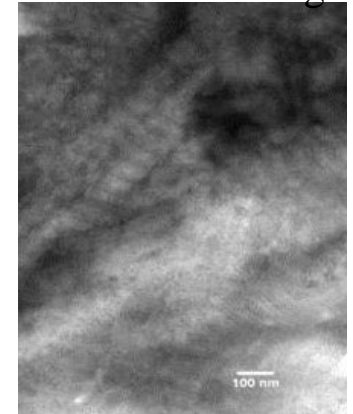
The Control (without hesperidine, on the left) showed the area of denatured collagen within the hybrid layer indicated by the arrow symbol. The HPN group (with hesperidine in the primer) showed the well organized collagen bundle within the hybrid layer.

Denatured collagen



Control
0% HPN

Preserved collagen



HPN-incorporated
group



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