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P172. EVALUATION OF BPA LEVELS RELEASED FROM DIFFERENT DENTAL RESTORATIVE MATERIALS USING HPLC METHOD

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Bisphenol A (BPA) is a chemical produced in large quantities for use primarily in the production of polycarbonate plastics and epoxy resins. BPA is also present in dental materials used to treat and prevent caries. There have been concerns raised regarding the safety of bisphenol A in dental sealants and composites. The aim of the study is to measure BPA levels which were released from composite resins after curing with different polymerization conditions. Four composite resins which are commonly used in dental clinics were used in the study. The resins were placed into a silicon mold (diameter: 5 mm; thickness: 2 mm) on a teflon plate and photopolymerized by LED light source using two different modes [Full-Mod (Mod-1) and Ramping Mod (Mod-2)]. After polymerization, cured composite resin specimens were soaked in 3 ml artificial saliva and stored at 37 C for 16 days. After 2 h, 24 h, 3 d, 7 d and 15 d, 250 µl specimens were taken in order to detect BPA release from dental resins by HPLC-UV detection. The linear ranges were found to be 5-2000 ppb. The regression equation was y=2.6726x-4.6396 (r =0.9993). Maximum and minimum BPA release from dental composites detected in Mod 1 were 174.04±9.7 and 9.30±0.16 while 10.15±0.3 and 218.0±9.5 in Mod 2, respectively. Release of BPA from dental restorative materials was ended after 15 days. In conclusion the absence of a continuous release of BPA from the dental materials is important in the clinical sense.

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