Abstract

Bonding agent is a resin matrix that containing BIS-A-GMA without or with little filler. They bounded each other in enamel micromechanically in one side and chemically in the other side. Champhoroquinone is a photo-initiator of visible light composite resin (VLCR). It is light yellow fine powder form. Both of them help polymerization process of VLCR. The aim of the study was to know the ability of bonding agent and champhoroquinone to increase visible light composite resin hardness in flow readily. This study was laboratory experimental. The subjects were divided into 3 groups, they were champhoroquinone group (CPG), bonding group (BG), and control group (CG). Every group consisted of 24 specimens. VLCR paste was exposed under light of dental unit lamp for 2 minutes. After that, VLCR paste was added with bonding and champhoroquinone, and was mixed until homogen. Then, the mixed was taken into mould space (5 mm in diameter and 2 mm in thickness), was compressed and flattened, and was cured for 40 seconds. All samples were tested the hardness by Vikers Hardness Number (VHN). All data were analyzed by Kruskal Wallis Test and continued by Mann -Witney-U Test. The result showed that the mean of BG (56.96 VHN) was higher than CG (55.11 VHN) and CPG (51.19 VHN). The statistic test showed there was significant different between the group. In conclusion, the bonding agent can increase hardness of VLCR in flow readily and better than control and champhoroquinone group.

Key words: bonding agent, champhoroquinone, visible light composite resin