Pengaruh aplikasi bonding agent terhadap kekerasan semen ionomer kaca (SIK)

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Abstrak

Latar Belakang: Semen Ionomer Kaca (SIK) adalah bahan restorasi yang terdiri bubuk kaca kalsium fluoroaluminosilikat dan asam poliakrilik. Pada tahap awal reaksi setelah pencampuran, SIK sensitif terhadap udara dan air yang dapat menghambat reaksi pengerasan, sehingga perlu perlindungan dengan material yang kedap air dan salah satunya adalah bonding agent.

Tujuan: menganalisis efek bonding agent terhadap kekerasan SIK.

Metode: 12 spesimen SIK diameter 5mm dan tebal 2mm, dibagi menjadi 3 kelompok: kelompok 1 tanpa pelapisan, kelompok 2 dilapis varnis dan kelompok 3 dilapis bonding agent. Seluruh spesimen direndam dalam methylen blue 0,1% selama 24 jam dan di masukkan dalam inkubator dalam suhu 37oC. Kemudian setiap sampel dibelah menjadi 2, yang satu sisi diukur kedalaman intrusi airnya dengan measuring microscope dan bagian lainnya diukur ke kekerasan permukaannya dengan Knoop Microhardness Tester. Kemudian hasilnya dianalisis secara statistik.

Hasil: Pada ketiga kelompok terlihat adanya perbedaan bermakna dengan nilai kekerasan SIK tertinggi ada pada kelompok bonding agent.

Kesimpulan: Aplikasi bonding agent dapat meningkatkan kekerasan SIK.
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Background: Glass Ionomer Cement (GIC) is a restorative material containing calcium fluoroalluminosillicate glass powder and polyacrylic acid. At the initial reaction after mixing process, GIC becomes sensitive to the air and water which can inhibit setting reaction, therefore it needs to be protected with waterproof material, such as bonding agent.

Aim: Analyzing effect of bonding agent application in the hardness of GIC.

Method: 12 GIC specimens with 5 mm in diameter and 2 mm in height were divided into 3 groups: first group were without coating, second group were coating with varnish, and third group were covering with bonding agent. All specimens were immersed in methylene blue 0,1% for 24 hours and stored into incubator 37o C. Furthermore, each sample was cut into 2 pieces, one part was measured for water intrusion using measuring microscope while the other part was measured for surface hardness using Knoop Microhardness Tester. Afterwards, the result was analized statistical.

Result: At 3 groups show there was significant difference, the highest hardness score is bonding agent?s

group.

Conclusion: Application of bonding agent could increase the hardness of GIC.