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# Development of dental resin luting agents based on Bis-EMA4: bond strength evaluation

*R. R. Moraes*[1*], *L. S. Gonçalves*[1], *F. A. Ogliari*[2], *E. Piva*[2], *M. A. Sinhoreti*[1], *L. Correr-Sobrinho*[1]

[1]Department of Restorative Dentistry, Dental Materials Division Piracicaba Dental School, State University of Campinas Av. Limeira, 901 – 13414-903 – Piracicaba, SP, Brazil
[2]Department of Restorative Dentistry School of Dentistry, Federal University of Pelotas R. Gonçalves Chaves, 457 – 96015-560 – Pelotas, RS, Brazil

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**Abstract.** The aim of this study was to investigate the influence of incorporating Bis-EMA4 monomer into experimental Bis-GMA/TEGDMA-based resin luting agents on the bond strength to dentin. Seven mixtures were prepared with the following ratios (wt%) of Bis-GMA/TEGDMA/Bis-EMA4: 50/50/0, 50/30/20, 50/10/40, 50/0/50, 30/10/60, 10/10/80 and 0/0/100. Camphorquinone (0.4 wt%), N,N-dimethyl-p-toluidine (0.8 wt%) and hydroquinone (0.2 wt%) were dissolved in each mixture, which was loaded with silanated strontium glass fillers to a constant content of 60 wt%. Bond strength was evaluated by microshear testing ($n = 10$) on bovine dentin. Data were submitted to Analysis of Variance ($p < 0.05$). Modes of failure were classified under magnification (200×). Bond strength means (MPa), respective to each agent, were: 19.4, 19.8, 20.0, 19.1, 16.8, 18.7 and 17.8. No significant differences were detected among groups. Mixed failures were generally predominant for all materials. In conclusion, the addition of Bis-EMA4 presented no significant influence on the bond strength of the experimental resin luting agents to dentin.

***Keywords:*** *adhesion, dental materials, dentin, resin luting agents*

*Corresponding author, e-mail: moraesrr@fop.unicamp.br