Estudo da microinfiltração marginal do Optibond™ XTR através de radioisótopos

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INTRODUÇÃO

O OptiBond™ XTR (Kerr) é um adesivo autocondicionante moderado introduzido no mercado em 2011. Este material apresenta um primer com grande capacidade de condicionamento devido a uma diminuição do pH por rápida evaporação do solvente. O objetivo deste trabalho é avaliar a microinfiltração marginal de restaurações dentárias com o sistema adesivo Optibond ™ XTR através do radioisótopo ^{99m}Tc e compará-la com o sistema adesivo Clearfil SE BOND. A hipótese nula é definida pela não influencia da utilização do adesivo do mesmo fabricante da resina composta no que diz respeito à microinflitração.

MATERIAIS E MÉTODOS

Selecionaram-se e secionaram-se 30 molares humanos íntegros em 2 partes iguais no sentido oclusogengival. Posteriormente foram preparadas classes V (4mm/ 3mm/3mm) nas faces vestibular/lingual de cada espécime, conservando todas as margens em esmalte. Dividiu-se a amostra em 4 grupos de forma aleatória: 1- utilização do Optibond™ XTR; 2- utilização do Clearfil™ SE BOND; 3- as cavidades não foram restauradas; 4- utilização do Optibond™ XTR. Nos grupo 1,2 e 4 o esmalte foi condicionado com ácido ortofosfórico a 37%) antes da aplicação do sistema adesivo. Após este procedimento as cavidades foram restauradas com SonicFill ™.

Fig.1. Modelo do preparo cavitário

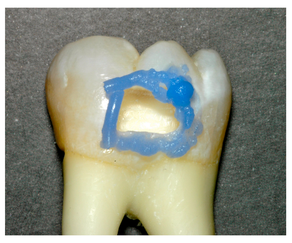

Fig.2. Condicionamento ácido do esmalte

Fig.3 Aplicação do sistema adesivo autocondicionante

Conservaram-se os espécimes em água destilada (37°C, 7 dias) e, de seguida, sofreram um processo de termociclagem (500 ciclos, 5°C and 55°C, ciclos de 30"). Aplicaram-se duas camadas de verniz vermelho na face externa à volta de cada restauração, excepto no controlo negativo onde todas as coroas foram completamente seladas. Colocou-se a amostra numa solução de pertecnato de ^{99m}Tc durante 3 horas e, após este período, fez-se a contagem da radioatividade com uma câmera gama.

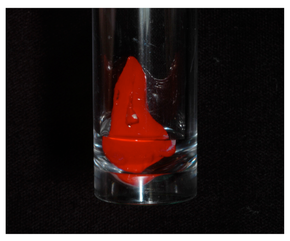

Fig.4. Imersão numa solução de pertecnato de ^{99m}Tc.

Fig.5. Preparação das espécimes para posterior avaliação em câmera gama.

RESULTADOS/DISCUSSÃO

Grupos	p-valor
G1 vs. G2	1,000
G1 vs. G3	0,008
G1 vs. G4	0,025
G2 vs. G3	0,006
G2 vs. G4	0,033
G3 vs. G4	<0,001

Tabela I. Comparações entre grupos feita através do teste não paramétrico Kruskal-Wallis com correção de Bonferroni e com nivel de significância de 5%

Com base nos resultados deste estudo *in vitro* não existiram diferenças estatisticamente significativas (p>0.05) entre os grupos teste. Verificaram-se diferenças estatisticamente significativas entre os grupos teste e os grupos controlo, o que significa que ambos os adesivos foram efetivos. Apenas foram encontradas grandes diferenças estatisticamente significativas entre os grupos controlo (p<0.001). O controlo negativo apresentou valores significativamente inferiores de infiltração, o que demonstra que o selamento das superficies com verniz foi eficaz, prevenindo a microinfiltração. Como previsto o maior nível de microinfiltração ocorreu no controlo positivo onde as cavidades não foram restauradas. O poder estatístico (0.87) mostra que o tamanho da amostra foi adequado.

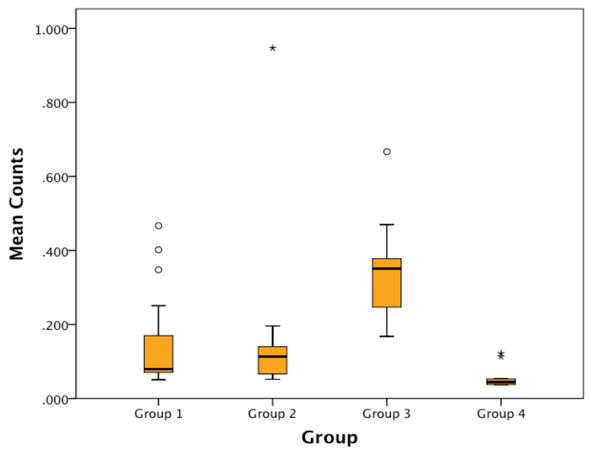

Fig.6. Análise estatística de cada grupo

CONCLUSÕES

Com base neste estudo *in vitro* pode-se concluir que o Optibond™ XTR não reduz o nível de microinfiltração quando comparado com o Clearfill SE BOND, verificando-se que a utilização do adesivo do mesmo fabricante da resina composta não influencia no que diz respeito à mesma. Contudo, para uma melhor avaliação deste novo material devem ser feitos estudos a longo prazo. As espécimes devem ser submetidas a outros testes de microinfiltração para comparar os diferentes métodos. Um aumento do número de ciclos de termociclagem bem como a adição de outro grupo teste sem condicionamento ácido ao esmalte podem ser considerados no futuro.

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