Effect of composite resin fillings on tooth defect

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View from specialist: It is creative, and of certain scientific and educational value.

[ABSTRACT] Objective: To discuss the clinical effects of composite resin fillings on the treatment of tooth defect. Methods: A total of 252 molars with tooth defect from 2009 to 2010 were chosen and divided into two groups randomly. After routine oral preparation, molars in the treatment group were filled with 3M composite resin with visible light solidifying after acid etching while molars in the control group were filled with silver amalgam after routine oral preparation. Both groups were followed up to observe the occurrence of secondary caries, loosening and dropping of fillings and dental vertical fracture of the filled tooth 1 year and 2 years, respectively after the filling. Results: There was no significant difference between two groups in the occurrence of secondary caries, loosening and dropping of fillings and dental vertical fracture after 1 year ($P > 0.05$). After 2 years, the occurrence of secondary caries, loosening and dropping of fillings and dental vertical fracture in the treatment group was significantly lower than those of the control group, with significant differences ($P < 0.05$). Conclusions: 3M composite resin can bear the occlusal force as the silver amalgam does. Meanwhile, it can avoid the occurrence of secondary caries and vertical fracture that caused by silver amalgam due to physical inlay. Furthermore, it provides rich operation time without wasting materials, and is free of mercury damage.

[KEY WORDS] Composite resin; Molars fillings; Therapeutic effects