Aim:

Dental fluorosis is a developmental problem of tooth enamel, caused by intake of chronical high levels of fluoride during tooth development. In many cases tooth enamel becomes opaque, porous and mottled appearance ranging from white to yellow-brown and black. Isparta is an endemic fluorosis area in Turkey. The aim of this study was to evaluate the clinical performance of a packable composite resin (Filtrek P60, 3M-ESPE, USA) which applied to fluorosed permanent molar teeth according to modified Ryge criteria in adolescents.

Methodology:

145 Class I restorations were placed in permanent molar teeth of adolescent patients aged 12 to 17 years. Molar teeth were grouped according to Thylstrup-Fejerskov index (TFI) into normal (TFI 0), mild fluorosis (TFI 1-2), moderate fluorosis (TFI 3-4) and severe fluorosis (TFI 5-7). Restorations were assessed by two previously calibrated operators in 3rd and 6th month and 1 year for colour matching, marginal discoloration, secondary caries, marginal adaptation, anatomic form, postoperative sensitivity and retention.

Results:

At the final appointment (after 1 year) 99.2 %, 99.5 %, 99.1 %, 96.9 % respectively of the restorations in normal, mild, moderate and severe fluorosis groups received Alfa ratings. A high percentage of optimal scores were recorded for secondary caries, anatomic form and retention. For marginal adaptation, three restorations in severe fluorosis group received a score of Beta (11.1 %).

Conclusions:

The clinical performance of Filtrek P60 packable composite resin was excellent after 1 year on fluorosed and non-fluorosed teeth. Nevertheless, we thought that, long-term clinical and radiographical evaluations are necessary.