A Peer Reviewed International Journal of Asian Academic Research Associates

AARJSH

ASIAN ACADEMIC RESEARCH JOURNAL OF SOCIAL SCIENCE & HUMANITIES

COMPARATIVE EVALUATION OF FRACTURE RESISTANCE OF ENDODONTICALLY TREATED TEETH RESTORED WITH DIFFERENT CORONAL RESTORATIVE MATERIAL- AN INVITRO STUDY

HRUSHIKESH SARAF*; PRADNYA NIKHADE; MANOJ CHANDAK*****

*MDS, sr. Lecturer
**MDS, Prof
***MDS, Prof

Abstract

Aim- This invitro study was carried out to evaluate and compare the effect of unbonded restoration and bonded restoration on fracture resistance of endodontically treated teeth Material and Method- 105 maxillary premolars were selected and divided into 7 groups. Group 1 was control group, Group 2 consisted on maxillary premolars with standard acccess cavity preparation, Group 3 consisted of maxillary premolars with standard MOD cavity cavity preparation and standard access opening without root canal treatment, group 4, group 5, group 6 and group 7 were similar to group 3 but with root canal treatment and restored with conventional high copper amalgam (bombay Burmah), bonded high copper amalgam, filtek p-60 composite (3M ESPE) and filtek p-60 composite with fiber net (Angelus) insertion respectively. Bonding agent used was sotchbond multipurpose plus (3M ESPE). All the samples were mounted on acrylic blocks and subjected to fracture testing using universal testing machine. All the readings were recorded in newtons. Statistical analysis was done using one way ANOVA, Dunnett D test and Tukey multiple comparison test. Result- Fracture resistance of endontically treated teeth restored with fiber net (Angelus) inserted composite P-60 (1102.75 ±15.40) is highest among all the other restored groups. There was statistically no significant difference ($p>0.05$) between groups restored with bonded restorations. Group restored with unbonded restoration showed statistically significant ($p<0.05$) difference when compared to bonded restorations. Conclusion- Although bonded restoration significantly increased the fracture resistance of endodontically treated teeth no restorative material could restore the strength equal to intact teeth.