



Fracture Resistance of Endodontically Treated Teeth Restored with Fiber Posts Luted with Composite Core Materials

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Introduction

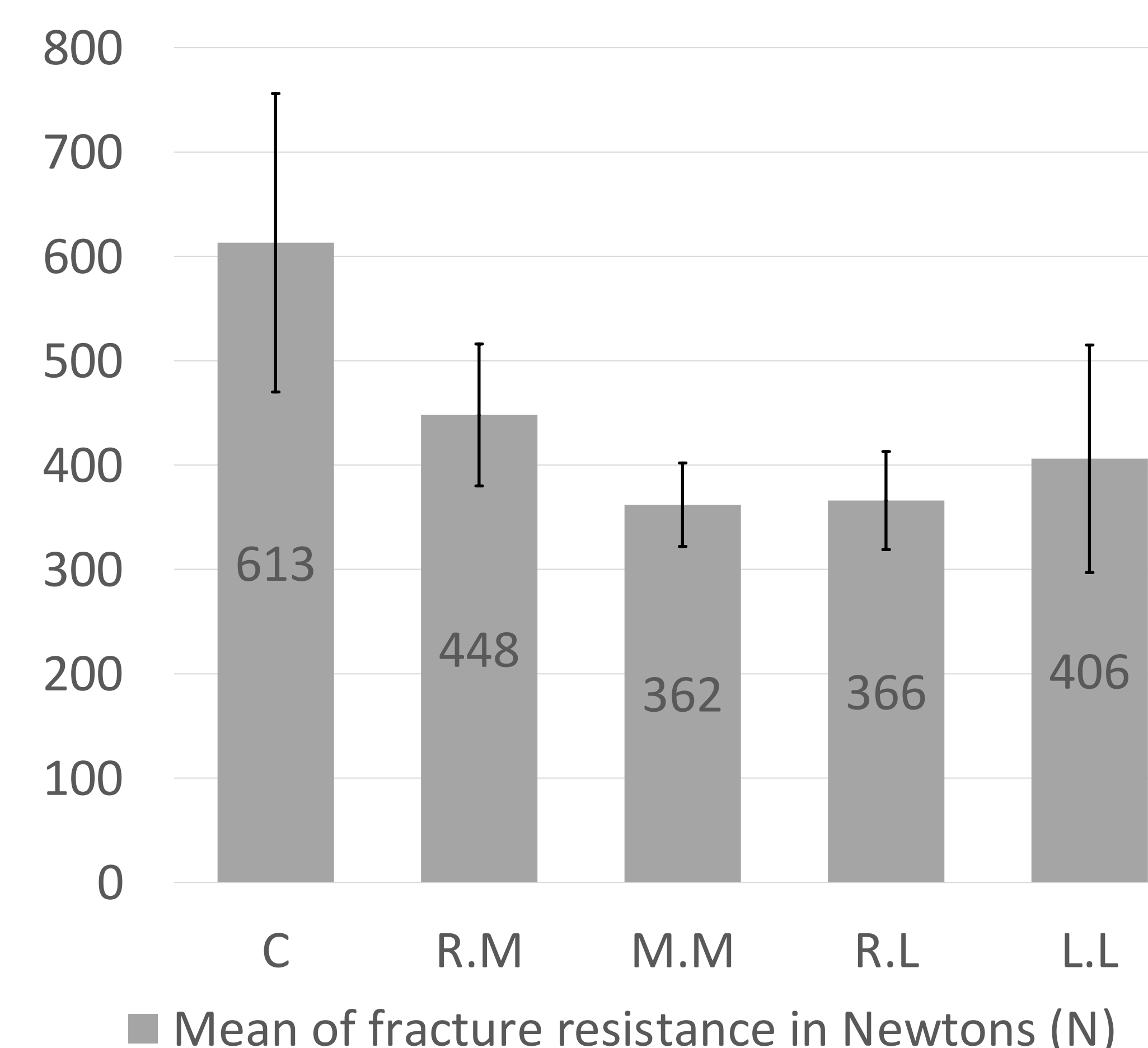
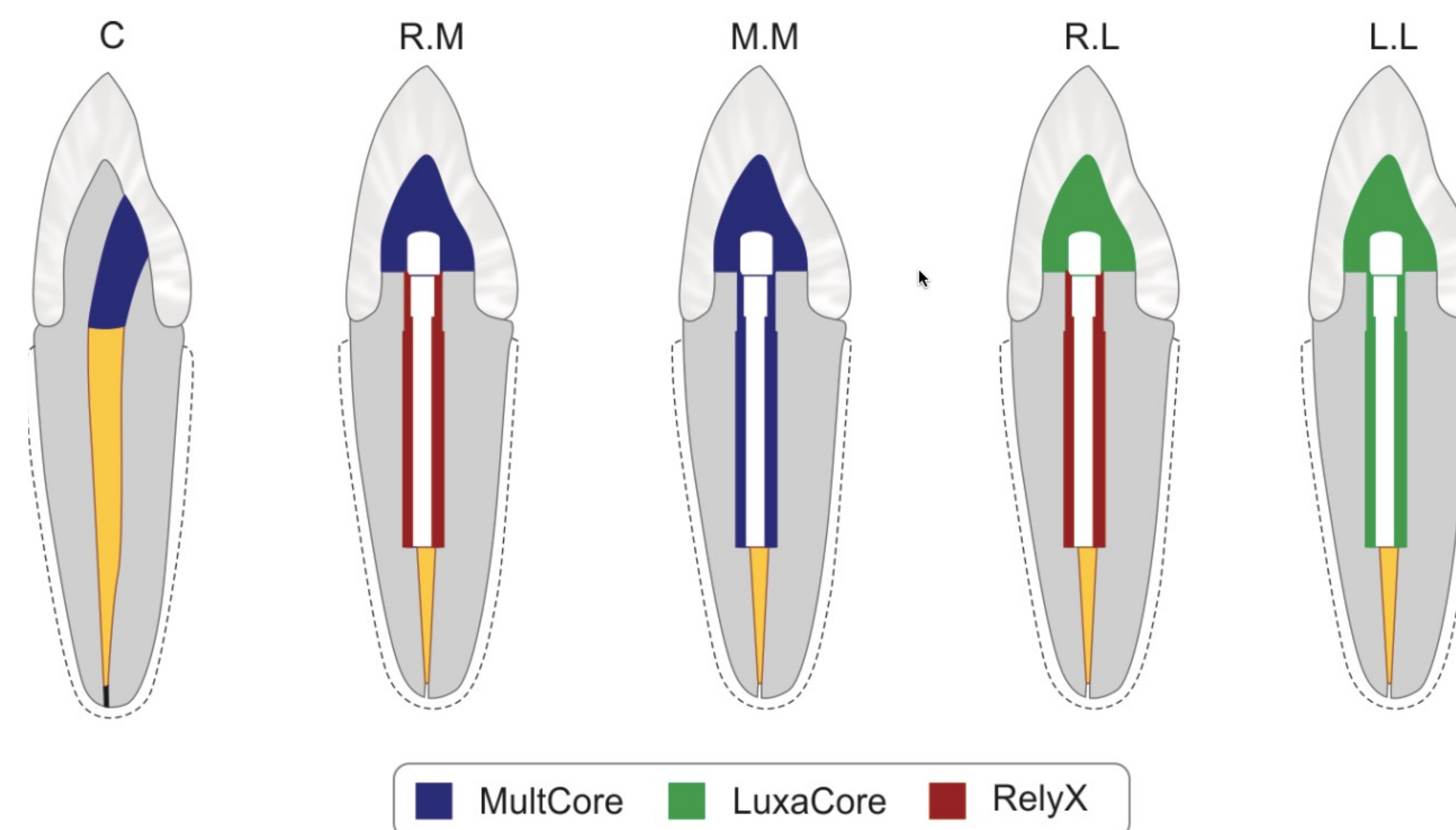
- The conventional method of luting fiber posts involve the use of resin cement, and the use of composite resin as a core build up material.
- The availability of core materials with low viscosities permits its use as luting agent.¹
- Using the same material for post luting and core buildup is a time-saving procedure and has been advocated by several studies.²⁻⁴

Aim

- This study aimed to investigate the effect of using the same composite resin material for fiber post luting and core buildup on the fracture resistance

Materials and methods

- Fifty sound and recently extracted maxillary central incisors were endodontically treated and distributed into five groups.
- G1: the control group, access cavities were restored with the composite resin.
- Experimental group had the coronal structure trimmed 2 mm above the cemento enamel junction.
- G2: RelyX Unicem for fiber post luting and Multicore for core buildup
- G3: Multicore for fiber post luting and core buildup



- G4: RelyX Unicem for fiber post luting and LuxaCore for core buildup;
- G5: LuxaCore for fiber post luting and core buildup
- All teeth were restored with zirconia crowns and subjected to thermocycling (6000 cycles 5/55°C).
- Loading of the teeth was applied at 135° to the palatal surface, using a universal testing machine at a cross-speed of 0.5 mm/minute until failure.

Results

- The fracture resistance of the control group was significantly higher than the experimental groups ($p < 0.05$).
- There was no significant difference between the experimental groups ($p > 0.05$).

Conclusion

- With the presence of the ferrule effect and crown restoration, the selected materials for post luting and core buildup have no significant influence on the fracture resistance of the endodontically treated teeth.

References

