Materials and Methods

Three self-etching bonding agents

- AQ Bond Plus
- Brush&Bond
- Touch&Bond

Results and Discussion

- MTBS values were analyzed using two-way ANOVA and Tukey’s Test.

Values with same letters are not significantly different by Tukey’s Test (P>0.05).

Objectives

Minimal invasive dentistry needs bonding materials which have high bond strength and sealability against not only a sound dentin but also a caries-affected dentin.

The purpose of this study was to evaluate the relationship between morphology of two types of carious dentin (Fig.2) and micro-tensile bond strength (MTBS) using three self-etching bonding agents (AQ Bond Plus, Brush&Bond, and Touch&Bond). Each of these materials forms a thin bonding layer.

- AG Bond Plus (JAPAN)
- Brush&Bond (USA)
- Touch&Bond (USA)

- Hybrid Bond (EU)
- EPIC-TMPT (USA)
- Carie Stain (USA)

Observation of adhesion interface

- Hybrid layer (HL) was perfectly formed at the adhesive interface.
- The boundary of the resin and dentin was clear.
- HL was formed without any gaps at the adhesive interface.
- The boundary of the resin and dentin was not clear.
- HL was formed with gaps at the adhesive interface.
- The dentin structures were jumbled.

Conclusion

The three self-etching bonding agents (AQ Bond Plus, Brush&Bond, and Touch&Bond) showed excellent bond strength to carious dentin demonstrated diverse morphologic structures. These materials are useful for minimal invasive dentistry.