



# Oral Presentation I

< ORAL PRESENTATION I >

Auditorium (7th F)

Chairman: Chung-Moon Um(Seoul National University)

09:10 - 10:10

**0-1**

## Self-adhesion of flowable composites to dentin surface

Tae-Hee Cho, Kyoung-Kyu Choi, Sang-Jin Park

*Department of Conservative Dentistry, College of Dentistry, Kyung Hee University*

### I. Objectives

To evaluate the physical properties such as micro-shear bond strength and flexural strength/modulus of a few experimental resins varied with functional monomer level to dentin.

### II. Materials and Methods

Human teeth were cut and ground with #600 SiC paper serially and exposed dentin surfaces. After pretreatment as instruction, experimental resin(functional monomer included ) were applied on dentin with bonding or not. Self-etching systems(Clearfil SE Bond, Unifil Bond) were used as a bonding agent. Each specimen was attached to zig placed testing machine(Shimadzu, Japan) and performed test at CHS of 1mm/min. Result were compared using ANOVA/Tukey' test at  $P \leq 0.05$ .

### III. Results

Contents of bonding agent(wt%)	Flexural strength		Flexural modulus		microshear bond strength with bonding		microshear bond strength without bonding	
	SB	UB	SB	UB	SB	UB	SB	UB
0	47.0±13.2		1.02±0.18		30.56±6.80	24.48±6.20	13.19±6.06	11.21±4.81
10	85.7±12.0	53.3±12.5	1.96±0.20	1.53±0.42	34.26±7.14	28.72±4.30	22.63±6.49	20.20±5.10
20	88.6±24.8	64.8±14.2	2.49±0.59	1.78±0.41	34.08±6.90	30.94±6.67	22.24±7.69	20.37±6.79
30	88.9±17.3	73.5±15.7	2.68±0.34	1.81±0.46	34.17±5.90	29.06±5.39	23.22±7.30	24.71±6.99
40	82.1±12.3	76.8±8.3	3.05±0.31	1.99±0.30B	35.80±8.12	31.22±4.82	33.07±12.47	26.78±3.95
50	99.8±33.9	75.9±19.7	3.50±0.61	2.31±0.30C	35.87±6.78	29.15±5.35	32.29±8.16	27.65±8.93

### IV. Conclusions

1. Flexural strength of flowable composites were increased by addition of adhesives.
2. Flexural modulus of flowable composites had significant correlation according to increasing of adhesives.
3. Microshear bond strength of flowable composites were a little increased due to addition of adhesives, and microshear bond strength of Clearfil SE Bond group were higher than that of Unifil Bond group.
4. In case of dentin pretreatment group without bond during bonding procedure, microshear bond strength of flowable composites with adhesives were significantly increased.
5. Comparing microshear bond strength of flowable composites with bond or not, pretreatment group with bond procedure were higher than that of group without bonding procedure. But there were no differences in case of over 40 wt% in Clearfil SE Bond group and 50 wt% in Unifil Bond group.