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APPENDIX

APPENDIX

Contents	Pages
Statistical analysis for difference in bond strength of fibre reinforced post bonded to intraradicular dentin using 4 luting cements.....	49
Statistical analysis for differences in microleakage of fibre reinforced post bonded to intraradicular dentin using 4 luting cements.....	55

Statistical analysis for difference in bond strength of fibre reinforced post bonded to intraradicular dentin using 4 luting cements

One-Sample Kolmogorov-Smirnov Test				
cement	cyclic loading		bond strength	
S	no	N	10	
		Normal Parameters ^{a,b}	Mean	12.2260
			Std. Deviation	6.34549
		Most Extreme Differences	Absolute	.209
			Positive	.209
			Negative	-.163
		Kolmogorov-Smirnov Z		.661
	Asymp. Sig. (2-tailed)		.774	
	yes	N	10	
		Normal Parameters ^{a,b}	Mean	10.9310
			Std. Deviation	4.47975
		Most Extreme Differences	Absolute	.250
			Positive	.224
			Negative	-.250
Kolmogorov-Smirnov Z			.792	
Asymp. Sig. (2-tailed)		.558		
P	no	N	10	
		Normal Parameters ^{a,b}	Mean	5.8970
			Std. Deviation	3.45572
		Most Extreme Differences	Absolute	.244
			Positive	.244
			Negative	-.233
		Kolmogorov-Smirnov Z		.772
	Asymp. Sig. (2-tailed)		.590	
	yes	N	10	
		Normal Parameters ^{a,b}	Mean	4.4990
			Std. Deviation	1.85646

		Most Extreme Differences	Absolute	.147
			Positive	.147
			Negative	-.132
		Kolmogorov-Smirnov Z		.464
		Asymp. Sig. (2-tailed)		.982
M	no	N		10
		Normal Parameters ^{a,b}	Mean	5.2170
			Std. Deviation	3.56203
		Most Extreme Differences	Absolute	.213
			Positive	.213
			Negative	-.169
	Kolmogorov-Smirnov Z		.674	
	Asymp. Sig. (2-tailed)		.755	
	yes	N		10
		Normal Parameters ^{a,b}	Mean	3.7830
			Std. Deviation	2.41853
		Most Extreme Differences	Absolute	.238
Positive			.238	
Negative			-.162	
Kolmogorov-Smirnov Z		.752		
Asymp. Sig. (2-tailed)		.624		
U	no	N		10
		Normal Parameters ^{a,b}	Mean	8.5510
			Std. Deviation	2.31680
		Most Extreme Differences	Absolute	.254
			Positive	.165
			Negative	-.254
	Kolmogorov-Smirnov Z		.804	
	Asymp. Sig. (2-tailed)		.538	
	yes	N		10
		Normal Parameters ^{a,b}	Mean	6.7080
			Std. Deviation	2.08237
	Most Extreme Differences	Absolute	.203	

		Positive	.203
		Negative	-.153
		Kolmogorov-Smirnov Z	.641
		Asymp. Sig. (2-tailed)	.806
a. Test distribution is Normal.			
b. Calculated from data.			

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
cement	1	S	20
	2	P	20
	3	M	20
	4	U	20
cyclic loading	1	no	40
	2	yes	40

Tests of Between-Subjects Effects

Dependent Variable: bond strength

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	658.441 ^a	7	94.063	7.238	.000
Intercept	4177.784	1	4177.784	321.482	.000
cement	613.019	3	204.340	15.724	.000
cyclic loading	44.551	1	44.551	3.428	.068
cement * cyclic loading	.871	3	.290	.022	.995
Error	935.667	72	12.995		
Total	5771.892	80			
Corrected Total	1594.108	79			

a. R Squared = .413 (Adjusted R Squared = .356)

One-way ANOVA

Descriptives									
strength bond strength									
						95% Confidence Interval for Mean	Minimum		
1 S	20	11.5785	5.38705	1.20458		9.0573	14.0997	3.97	21.80
2 P	20	5.1980	2.79349	.62464		3.8906	6.5054	1.49	10.71
3 M	20	4.5000	3.05319	.68271		3.0711	5.9289	1.40	13.65
4 U	20	7.6295	2.34316	.52395		6.5329	8.7261	3.36	10.81
Total	80	7.2265	4.49206	.50223		6.2268	8.2262	1.40	21.80

Test of Homogeneity of Variances

strength bond strength

Levene Statistic	df1	df2	Sig.
7.854	3	76	.000

ANOVA

strength bond strength

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	613.019	3	204.340	15.829	.000
Within Groups	981.089	76	12.909		
Total	1594.108	79			

Robust Tests of Equality of Means

strength bond strength

	Statistic ^a	df1	df2	Sig.
Brown-Forsythe	15.829	3	49.661	.000

a. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons

strength bond strength

Dunnett T3

(I) cement	(J) cement	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1 S	2 P	6.38050*	1.35691	.000	2.5619	10.1991
	3 M	7.07850*	1.38460	.000	3.1954	10.9616
	4 U	3.94900*	1.31360	.033	.2270	7.6710
2 P	1 S	-6.38050*	1.35691	.000	-10.1991	-2.5619
	3 M	.69800	.92535	.970	-1.8635	3.2595
	4 U	-2.43150*	.81529	.029	-4.6909	-.1721
3 M	1 S	-7.07850*	1.38460	.000	-10.9616	-3.1954
	2 P	-.69800	.92535	.970	-3.2595	1.8635
	4 U	-3.12950*	.86059	.005	-5.5189	-.7401
4 U	1 S	-3.94900*	1.31360	.033	-7.6710	-.2270
	2 P	2.43150*	.81529	.029	.1721	4.6909
	3 M	3.12950*	.86059	.005	.7401	5.5189

*. The mean difference is significant at the 0.05 level.

Statistical analysis for differences in microleakage of fibre reinforced post bonded to intraradicular dentin using 4 luting cements.

One-Sample Kolmogorov-Smirnov Test				
cement	cyclic loading		microleak	
S	no	N	10	
		Normal Parameters ^{a,b}	Mean	122.7520
			Std. Deviation	30.17869
		Most Extreme Differences	Absolute	.127
			Positive	.127
			Negative	-.111
		Kolmogorov-Smirnov Z		.401
	Asymp. Sig. (2-tailed)		.997	
	yes	N	10	
		Normal Parameters ^{a,b}	Mean	332.4770
			Std. Deviation	241.13107
		Most Extreme Differences	Absolute	.371
			Positive	.371
			Negative	-.257
Kolmogorov-Smirnov Z			1.174	
Asymp. Sig. (2-tailed)		.127		
P	no	N	10	
		Normal Parameters ^{a,b}	Mean	142.7710
			Std. Deviation	16.74635
		Most Extreme Differences	Absolute	.268
			Positive	.268
			Negative	-.146
		Kolmogorov-Smirnov Z		.848
	Asymp. Sig. (2-tailed)		.468	
	yes	N	10	
		Normal Parameters ^{a,b}	Mean	700.7040
			Std. Deviation	308.54763
		Most Extreme Differences	Absolute	.199

			Positive	.134
			Negative	-.199
		Kolmogorov-Smirnov Z		.628
		Asymp. Sig. (2-tailed)		.825
M	no	N		10
		Normal Parameters ^{a,b}	Mean	539.7420
			Std. Deviation	280.66293
		Most Extreme Differences	Absolute	.183
			Positive	.183
			Negative	-.146
		Kolmogorov-Smirnov Z		.580
	Asymp. Sig. (2-tailed)		.890	
	yes	N		10
		Normal Parameters ^{a,b}	Mean	637.8820
			Std. Deviation	302.21185
		Most Extreme Differences	Absolute	.351
			Positive	.351
			Negative	-.119
Kolmogorov-Smirnov Z		1.108		
Asymp. Sig. (2-tailed)		.171		
U	no	N		10
		Normal Parameters ^{a,b}	Mean	446.2260
			Std. Deviation	329.97980
		Most Extreme Differences	Absolute	.246
			Positive	.246
			Negative	-.205
		Kolmogorov-Smirnov Z		.778
	Asymp. Sig. (2-tailed)		.581	
	yes	N		10
		Normal Parameters ^{a,b}	Mean	948.6970
			Std. Deviation	526.18606
		Most Extreme Differences	Absolute	.172
			Positive	.172

		Negative	-.157
		Kolmogorov-Smirnov Z	.543
		Asymp. Sig. (2-tailed)	.929
a. Test distribution is Normal.			
b. Calculated from data.			

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
cement	1	S	20
	2	P	20
	3	M	20
	4	U	20
cyclic loading	1	no	40
	2	yes	40

Tests of Between-Subjects Effects

Dependent Variable: microleak

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5,610,141.38 ^a	7	801448.769	9.025	.000
Intercept	18,733,230.38	1	18,733,230.38	210.960	.000
cement	2523229.516	3	841076.505	9.472	.000
cyclic loading	2340200.070	1	2340200.070	26.354	.000
cement * cyclic loading	746,711.80	3	248903.932	2.803	.046
Error	6393592.337	72	88799.894		
Total	30,736,964.10	80			
Corrected Total	12003733.720	79			

a. R Squared = .467 (Adjusted R Squared = .416)

Oneway

Test of Homogeneity of Variances

microleak

Levene Statistic	df1	df2	Sig.
5.976	7	72	.000

ANOVA

microleak

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5610141.383	7	801448.769	9.025	.000
Within Groups	6393592.337	72	88799.894		
Total	1.200E7	79			

Robust Tests of Equality of Means

microleak

	Statistic ^a	df1	df2	Sig.
Brown-Forsythe	9.025	7	39.323	.000

a. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons

microleak Dunnett T3						
(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1 s no cyclic loading	2 s cyclic loading	-209.72500	76.84722	.320	-522.2279	102.7779
	3 p no cyclic loading	-20.01900	10.91418	.809	-60.6466	20.6086
	4 p cyclic loading	-577.95200*	98.03693	.005	-977.8545	-178.0495
	5 m no cyclic loading	-416.99000*	89.26502	.022	-780.7410	-53.2390
	6 m cyclic loading	-515.13000*	96.04309	.009	-906.8183	-123.4417
	7 u no cyclic loading	-323.47400	104.78426	.200	-751.1631	104.2151
	8 u cyclic loading	-825.94500*	166.66809	.016	-1508.0143	-143.8757
2 s cyclic loading	1 s no cyclic loading	209.72500	76.84722	.320	-102.7779	522.2279
	3 p no cyclic loading	189.70600	76.43601	.434	-122.8486	502.2606
	4 p cyclic loading	-368.22700	123.83288	.173	-815.5036	79.0496
	5 m no cyclic loading	-207.26500	117.01106	.850	-627.8444	213.3144
	6 m cyclic loading	-305.40500	122.26046	.383	-746.4533	135.6433
	7 u no cyclic loading	-113.74900	129.24042	1.000	-582.7215	355.2235
	8 u cyclic loading	-616.22000	183.03441	.104	-1311.1591	78.7191
3 p no cyclic loading	1 s no cyclic loading	20.01900	10.91418	.809	-20.6086	60.6466
	2 s cyclic loading	-189.70600	76.43601	.434	-502.2606	122.8486
	4 p cyclic loading	-557.93300*	97.71493	.006	-957.8918	-157.9742

	5 m no cyclic loading	-396.97100*	88.91126	.030	-760.7781	-33.1639
	6 m cyclic loading	-495.11100*	95.71439	.012	-886.8557	-103.3663
	7 u no cyclic loading	-303.45500	104.48306	.257	-731.1997	124.2897
	8 u cyclic loading	-805.92600*	166.47889	.018	-1488.0381	-123.8139
4 p cyclic loading	1 s no cyclic loading	577.95200*	98.03693	.005	178.0495	977.8545
	2 s cyclic loading	368.22700	123.83288	.173	-79.0496	815.5036
	3 p no cyclic loading	557.93300*	97.71493	.006	157.9742	957.8918
	5 m no cyclic loading	160.96200	131.89895	.995	-312.2370	634.1610
	6 m cyclic loading	62.82200	136.57732	1.000	-426.5921	552.2361
	7 u no cyclic loading	254.47800	142.85948	.845	-257.7327	766.6887
	8 u cyclic loading	-247.99300	192.89205	.988	-961.9881	466.0021
5 m no cyclic loading	1 s no cyclic loading	416.99000*	89.26502	.022	53.2390	780.7410
	2 s cyclic loading	207.26500	117.01106	.850	-213.3144	627.8444
	3 p no cyclic loading	396.97100*	88.91126	.030	33.1639	760.7781
	4 p cyclic loading	-160.96200	131.89895	.995	-634.1610	312.2370
	6 m cyclic loading	-98.14000	130.42380	1.000	-565.8248	369.5448
	7 u no cyclic loading	93.51600	136.98845	1.000	-399.0750	586.1070
	8 u cyclic loading	-408.95500	188.58511	.599	-1113.8388	295.9288
6 m cyclic loading	1 s no cyclic loading	515.13000*	96.04309	.009	123.4417	906.8183
	2 s cyclic loading	305.40500	122.26046	.383	-135.6433	746.4533
	3 p no cyclic loading	495.11100*	95.71439	.012	103.3663	886.8557
	4 p cyclic loading	-62.82200	136.57732	1.000	-552.2361	426.5921

	5 m no cyclic loading	98.14000	130.42380	1.000	-369.5448	565.8248
	7 u no cyclic loading	191.65600	141.49865	.983	-315.8972	699.2092
	8 u cyclic loading	-310.81500	191.88637	.912	-1022.5841	400.9541
7 u no cyclic loading	1 s no cyclic loading	323.47400	104.78426	.200	-104.2151	751.1631
	2 s cyclic loading	113.74900	129.24042	1.000	-355.2235	582.7215
	3 p no cyclic loading	303.45500	104.48306	.257	-124.2897	731.1997
	4 p cyclic loading	-254.47800	142.85948	.845	-766.6887	257.7327
	5 m no cyclic loading	-93.51600	136.98845	1.000	-586.1070	399.0750
	6 m cyclic loading	-191.65600	141.49865	.983	-699.2092	315.8972
	8 u cyclic loading	-502.47100	196.40734	.357	-1224.6795	219.7375
8 u cyclic loading	1 s no cyclic loading	825.94500*	166.66809	.016	143.8757	1508.0143
	2 s cyclic loading	616.22000	183.03441	.104	-78.7191	1311.1591
	3 p no cyclic loading	805.92600*	166.47889	.018	123.8139	1488.0381
	4 p cyclic loading	247.99300	192.89205	.988	-466.0021	961.9881
	5 m no cyclic loading	408.95500	188.58511	.599	-295.9288	1113.8388
	6 m cyclic loading	310.81500	191.88637	.912	-400.9541	1022.5841
	7 u no cyclic loading	502.47100	196.40734	.357	-219.7375	1224.6795

*. The mean difference is significant at the 0.05 level.

BIOGRAPHY

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