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# Defining Subphenotypes for Oral Clefts Based on Dental Development

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## APPENDIX

Differences in Observed Frequencies of Dental Anomalies between Individuals with Each Different Cleft Phenotype and Control Individuals. Significance Figures were Accounted for by the Bonferroni Correction (0.05/176 tests;  $\alpha = 0.0002$ ).

### 1. Complete Cleft Palate x Control

Dental Anomaly	Complete Cleft Palate (n = 21)	Control (n = 500)	p Value
Agenesis	4	36	0.04
Microdontia	0	1	0.8
Supernumerary	0	1	0.8
Malposition	0	2	0.7
Impaction	2	1	0.00001
Malformation	0	0	—
Transposition	0	0	—
Multiple	2	1	0.00001
Total	8	42	0.00001

### 2. Incomplete Cleft Palate x Control

Dental Anomaly	Incomplete Cleft Palate (n = 45)	Control (n = 500)	p Value
Agenesis	10	36	0.0005
Microdontia	0	1	0.7
Supernumerary	1	1	0.03
Malposition	4	2	0.00001
Impaction	0	1	0.7
Malformation	1	0	0.0008
Transposition	0	0	—
Multiple	0	1	0.7
Total	16	42	0.00001

### 3. Total Cleft Palate x Control

Dental Anomaly	Cleft Palate (n = 66)	Control (n = 500)	p Value
Agenesis	14	36	0.0001
Microdontia	0	1	0.7
Supernumerary	1	1	0.09
Malposition	4	2	0.00001
Impaction	2	1	0.002
Malformation	1	0	0.005
Transposition	0	0	—
Multiple	2	1	0.002
Total	24	42	0.00001

## 4. Complete Cleft Lip and Palate (unilateral + bilateral) x Control

Dental Anomaly	Complete Cleft Lip and Palate (n = 300)	Control (n = 500)	p Value
Agenesis	90	36	0.00001
Microdontia	7	1	0.003
Supernumerary	16	1	0.00001
Malposition	30	2	0.00001
Impaction	3	1	0.1
Malformation	0	0	—
Transposition	5	0	0.003
Multiple	17	1	0.00001
Total	168	42	0.00001

## 5. Incomplete Cleft Lip and Palate (unilateral + bilateral) x Control

Dental Anomaly	Incomplete Cleft Lip and Palate (n = 104)	Control (n = 500)	p Value
Agenesis	23	36	0.00001
Microdontia	1	1	0.2
Supernumerary	4	1	0.0001
Malposition	12	2	0.00001
Impaction	1	1	0.2
Malformation	0	0	—
Transposition	2	0	0.001
Multiple	3	1	0.002
Total	44	42	0.0000001

## 6. Unilateral Cleft Lip and Palate x Control

Dental Anomaly	Unilateral Cleft Lip and Palate (n = 250)	Control (n = 500)	p Value
Agenesis	71	36	0.00001
Microdontia	6	1	0.003
Supernumerary	16	1	0.00001
Malposition	27	2	0.00001
Impaction	3	1	0.07
Malformation	0	0	—
Transposition	3	0	0.01
Multiple	16	1	0.00001
Total	139	42	0.00001

## 7. Complete Unilateral Cleft Lip and Palate x Control

Dental Anomaly	Complete Unilateral Cleft Lip and Palate (n = 175)	Control (n = 500)	p Value
Agenesis	57	36	0.00001
Microdontia	5	1	0.001
Supernumerary	14	1	0.00001
Malposition	19	2	0.00001
Impaction	2	1	0.1
Malformation	0	0	—
Transposition	1	0	0.09
Multiple	13	1	0.00001
Total	111	42	0.00001

## 8. Incomplete Unilateral Cleft Lip and Palate x Control

Dental Anomaly	Incomplete Unilateral Cleft Lip and Palate (n = 75)	Control (n = 500)	p Value
Agenesis	14	36	0.001
Microdontia	1	1	0.1
Supernumerary	2	1	0.006
Malposition	8	2	0.00001
Impaction	1	1	0.1
Malformation	0	0	—
Transposition	2	0	0.0003
Multiple	3	1	0.0002
Total	31	42	0.00001

## 9. Unilateral Right Cleft Lip and Palate x Control

Dental Anomaly	Total Right Cleft Lip and Palate (n = 78)	Control (n = 500)	p Value
Agenesis	28	36	0.00001
Microdontia	2	1	0.006
Supernumerary	3	1	0.0003
Malposition	9	2	0.00001
Impaction	1	1	0.1
Malformation	0	0	—
Transposition	0	0	—
Multiple	2	1	0.006
Total	45	42	0.00001

## 10. Complete Unilateral Right Cleft Lip and Palate x Control

Dental Anomaly	Complete Unilateral Right Cleft Lip and Palate (n = 54)	Control (n = 500)	p Value
Agenesis	23	36	0.00001
Microdontia	2	1	0.0008
Supernumerary	3	1	0.00001
Malposition	6	2	0.00001
Impaction	0	1	0.7
Malformation	0	0	—
Transposition	0	0	—
Multiple	2	1	0.0008
Total	36	42	0.00001

## 11. Incomplete Unilateral Right Cleft Lip and Palate x Control

Dental Anomaly	Incomplete Unilateral Right Cleft Lip and Palate (n = 16)	Control (n = 500)	p Value
Agenesis	3	36	0.08
Microdontia	0	1	0.8
Supernumerary	0	1	0.8
Malposition	3	2	0.00001
Impaction	0	1	0.8
Malformation	0	0	—
Transposition	0	0	—
Multiple	0	1	0.8
Total	6	42	0.00001

## 12. Incomplete Unilateral Right Cleft Lip and Palate + Cleft Palate x Control

Dental Anomaly	Incomplete Unilateral Right Cleft Lip and Palate + Cleft Palate (n = 8)	Control (n = 500)	p Value
Agenesis	2	36	0.05
Microdontia	0	1	0.9
Supernumerary	0	1	0.9
Malposition	0	2	0.8
Impaction	1	1	0.8
Malformation	0	0	—
Transposition	0	0	—
Multiple	0	1	0.9
Total	3	42	0.004

## 13. Unilateral Left Cleft Lip and Palate x Control

Dental Anomaly	Unilateral Left Cleft Lip and Palate (n = 172)	Control (n = 500)	p Value
Agenesis	43	36	0.00001
Microdontia	4	1	0.005
Supernumerary	13	1	0.00001
Malposition	18	2	0.00001
Impaction	2	1	0.1
Malformation	0	0	—
Transposition	3	0	0.003
Multiple	14	1	0.00001
Total	97	42	0.00001

## 14. Complete Unilateral Left Cleft Lip and Palate x Control

Dental Anomaly	Complete Unilateral Left Cleft Lip and Palate (n = 121)	Control (n = 500)	p Value
Agenesis	34	36	0.00001
Microdontia	3	1	0.005
Supernumerary	11	1	0.00001
Malposition	13	2	0.00001
Impaction	2	1	0.03
Malformation	0	0	—
Transposition	1	0	0.04
Multiple	11	1	0.00001
Total	75	42	0.00001

## 15. Incomplete Unilateral Left Cleft Lip and Palate x Control

Dental Anomaly	Incomplete Unilateral Left Cleft Lip and Palate (n = 46)	Control (n = 500)	p Value
Agenesis	9	36	0.003
Microdontia	1	1	0.03
Supernumerary	2	1	0.0002
Malposition	5	2	0.00001
Impaction	0	1	0.7
Malformation	0	0	—
Transposition	2	0	0.00001
Multiple	3	1	0.00001
Total	22	42	0.00001

## 16. Incomplete Unilateral Left Cleft Lip and Palate + Cleft Palate x Control

Dental Anomaly	Incomplete Unilateral Left Cleft Lip and Palate + Cleft Palate (n = 5)	Control (n = 500)	p Value
Agenesis	0	36	0.5
Microdontia	0	1	0.9
Supernumerary	0	1	0.9
Malposition	0	2	0.9
Impaction	0	1	0.9
Malformation	0	0	—
Transposition	0	0	—
Multiple	0	1	0.9
Total	0	42	0.5

## 17. Bilateral Cleft Lip and Palate x Control

Dental Anomaly	Bilateral Cleft Lip and Palate (n = 154)	Control (n = 500)	p Value
Agenesis	42	36	0.00001
Microdontia	2	1	0.07
Supernumerary	4	1	0.002
Malposition	15	2	0.00001
Impaction	1	1	0.3
Malformation	0	0	—
Transposition	4	0	0.0003
Multiple	4	1	0.002
Total	72	42	0.00001

## 18. Complete Bilateral Cleft Lip and Palate x Control

Dental Anomaly	Complete Bilateral Cleft Lip and Palate (n = 125)	Control (n = 500)	p Value
Agenesis	33	36	0.00001
Microdontia	2	1	0.04
Supernumerary	2	1	0.04
Malposition	11	2	0.00001
Impaction	1	1	0.3
Malformation	0	0	—
Transposition	4	0	0.00001
Multiple	4	1	0.0008
Total	57	42	0.0000001

## 19. Incomplete Bilateral Cleft Lip and Palate x Control

Dental Anomaly	Incomplete Bilateral Cleft Lip (n = 8)	Control (n = 500)	p Value
Agenesis	1	36	0.5
Microdontia	0	1	0.9
Supernumerary	1	1	0.00001
Malposition	1	2	0.00001
Impaction	0	1	0.9
Malformation	0	0	—
Transposition	0	0	—
Multiple	0	1	0.9
Total	3	42	0.004

## 20. Incomplete Bilateral Cleft Lip and Palate + Cleft Palate x Control

Dental Anomaly	Incomplete Bilateral Cleft Lip and Palate + Cleft Palate (n = 17)	Control (n = 500)	p Value
Agenesis	7	36	0.00001
Microdontia	0	1	0.8
Supernumerary	1	1	0.0002
Malposition	3	2	0.00001
Impaction	0	1	0.8
Malformation	0	0	—
Transposition	0	0	—
Multiple	0	1	0.8
Total	11	42	0.00001

## 21. Incomplete Mixed Bilateral Cleft Lip and Palate x Control

Dental Anomaly	Incomplete Mixed Bilateral Cleft Lip and Palate (n = 4)	Control (n = 500)	p Value
Agenesis	1	36	0.1
Microdontia	0	1	0.9
Supernumerary	0	1	0.9
Malposition	0	2	0.9
Impaction	0	1	0.9
Malformation	0	0	—
Transposition	0	0	—
Multiple	0	1	0.9
Total	1	42	0.2

## 22. Total Cleft Lip and Palate x Control

Dental Anomaly	Total Cleft Lip and Palate (n = 406)	Control (n = 500)	p Value
Agenesis	113	36	0.00001
Microdontia	8	1	0.007
Supernumerary	20	1	0.00001
Malposition	42	2	0.00001
Impaction	4	1	0.1
Malformation	0	0	—
Transposition	7	0	0.003
Multiple	20	1	0.00001
Total	217	42	0.00001