

Case Report

Analysis of the Oral Microbiome in a Patient with Cardiofaciocutaneous Syndrome and Severe Periodontal Disease: Impact of Systemic Antibiotic Therapy

Carolina Muñoz Navarro ^{1,*}, María del Carmen Sánchez Beltrán ², Carolina Arriagada Vargas ¹, Pilar Batalla Vázquez ³, Márcio Diniz Freitas ^{3,*}, Jacobo Limeres Posse ³, Pedro Diz Dios ³ and Eliane García Mato ³

¹ Special Care Dentistry Postgraduate Training Program, School of Medicine and Dentistry, Santiago de Compostela University, 15782 A Coruña, Spain

² GINTRAMIS Research Group (Translational Research Group on Microbiota and Health), Department of Medicine, Faculty of Medicine, University Complutense, 28040 Madrid, Spain

³ Medical-Surgical Dentistry Research Group (OMEQUI), Health Research Institute of Santiago de Compostela (IDIS), University of Santiago de Compostela (USC), Santiago de Compostela, 15782 A Coruña, Spain

* Correspondence: caro.almunoz@gmail.com (C.M.N.); marcio.diniz@usc.es (M.D.F.); Tel.: +34-981523582 (M.D.F.)

TABLES

Table S1. Sequenced operational taxonomic units and their proportion (%) in the subgingival samples of a patient with periodontitis at baseline and after antibiotic therapy, for the taxonomic level of phylum.

Phylum	% at baseline	% post-therapy
<i>Actinobacteriota</i>	2.43	14.45
<i>Bacteroidota</i>	28.33	22.95
<i>Campylobacterota</i>	3.65	0.31
<i>Chloroflexi</i>	0.02	0.06
<i>Desulfobacterota</i>	0.06	0.58
<i>Firmicutes</i>	25.64	37.53
<i>Fusobacteriota</i>	16.99	4.43
<i>Patescibacteria</i>	7.00	2.76
<i>Proteobacteria</i>	10.06	14.95
<i>Spirochaetota</i>	4.68	0.87
<i>Synergistota</i>	1.13	1.12

Table S2. Sequenced operational taxonomic units and their proportion (%) in the subgingival samples of a patient with periodontitis at baseline and after antibiotic therapy, for the taxonomic level of genus.

Genus	% at baseline	% post-therapy
<i>Actinomyces</i>	0.25	0.205
<i>Actinomycetaceae_F0332</i>	0.291	13.339
<i>Corynebacterium</i>	0.8	0.047
<i>Rothia</i>	0.023	0
<i>Pseudopropionibacterium</i>	0.022	0.762
<i>Atopobium</i>	0.009	0
<i>Olsenella</i>	1.039	0.093
<i>Bacteroides</i>	0.098	0.147
<i>Phocaeicola</i>	0.066	0.809
<i>Paludibacteraceae_F0058</i>	3.311	0.944
<i>Porphyromonas</i>	1.984	0.385
<i>Prevotellaceae_undefined</i>	0.052	0.177
<i>Alloprevotella</i>	4.945	0.308
<i>Prevotella</i>	10.121	7.984
<i>Prevotellaceae</i>	0.02	0.08
<i>Rikenellaceae_RC9_gut_group</i>	0.061	0.491
<i>Tannerella</i>	1.403	0.524
<i>Capnocytophaga</i>	3.882	8.919
<i>Bergeyella</i>	1.3	1.506
<i>Chryseobacterium</i>	0	0.195
<i>Lentimicrobium</i>	1.089	0.477
<i>Campylobacter</i>	3.654	0.308
<i>Flexilinea</i>	0.022	0.058
<i>Desulfobulbus</i>	0	0.039
<i>Desulfovibrio</i>	0.064	0.542
<i>Bulleidia</i>	0.04	1.744
<i>Solobacterium</i>	0.071	0
<i>Lactobacillales_undefined</i>	0.009	0
<i>Abiotrophia</i>	0.049	7.438
<i>Granulicatella</i>	0.129	7.419
<i>Lactobacillus</i>	0.056	0.039
<i>Pediococcus</i>	0.01	0
<i>Streptococcus</i>	6.358	3.544
<i>Mycoplasma</i>	0.017	1.238
<i>Gemella</i>	2.678	0.998
<i>Clostridia_UCG-014</i>	0.434	0
<i>Pseudoramibacter</i>	0.006	0.028
<i>Defluviitaleaceae_UCG-011</i>	0.111	0.005

<i>Lachnospiraceae_undefined</i>	0.054	0
<i>Butyrivibrio</i>	0.068	0
<i>Catonella</i>	0.876	0.034
<i>Howardella</i>	0.008	0.008
<i>Johnsonella</i>	1.205	0.153
<i>Lachnoanaerobaculum</i>	0.726	0.193
<i>Oribacterium</i>	0.36	0.258
<i>Roseburia</i>	0.009	0
<i>Lachnospiraceae_uncultured</i>	0.301	0
<i>Peptococcus</i>	0.64	0.003
<i>Amnipyila</i>	0.022	0
<i>Anaerovoracaceae;_Family_XIII_UCG-001</i>	0.009	0.038
<i>Mogibacterium</i>	0	0.016
<i>Eubacterium_brachy_group</i>	0.181	0.171
<i>Eubacterium_nodatum_group</i>	0.01	0.076
<i>Eubacterium_saphenum_group</i>	0.171	0.49
<i>Anaerovoracaceae_uncultured</i>	0.056	0.202
<i>Filifactor</i>	0.206	1.289
<i>Peptoanaerobacter</i>	0.16	0
<i>Peptostreptococcus</i>	1.228	0.675
<i>Eubacterium_yurii_group</i>	0.144	0.01
<i>Parvimonas</i>	0.444	0.864
<i>Selenomonadaceae_undefined</i>	1.459	0
<i>Centipeda</i>	2.651	0.112
<i>Selenomonas</i>	3.874	2.382
<i>Selenomonadaceae_uncultured</i>	0.038	0
<i>Anaeroglobus</i>	0.024	0.014
<i>Dialister</i>	0.447	1.098
<i>Veillonella</i>	0.297	6.991
<i>Fusobacterium</i>	6.227	1.216
<i>Leptotrichia</i>	10.699	3.21
<i>Streptobacillus</i>	0.061	0
<i>Absconditabacteriales_(SR1)</i>	0.414	0
<i>Saccharimonadales_undefined</i>	0.032	0
<i>Candidatus_Saccharimonas</i>	0.298	0
<i>Saccharimonadaceae</i>	0.857	1.373
<i>Saccharimonadaceae_TM7x</i>	3.517	0.696
<i>Saccharimonadales</i>	1.881	0.694
<i>Lautropia</i>	0.044	5.11
<i>Brachymonas</i>	0.135	0.027
<i>Neisseriaceae_undefined</i>	0.026	0.388
<i>Eikenella</i>	0.052	1.837
<i>Kingella</i>	0	0.51

<i>Neisseria</i>	0.453	3.277
<i>Propionivibrio</i>	0.197	0.01
<i>Cardiobacterium</i>	0.212	0.018
<i>Raoultella</i>	0.084	0.114
<i>Pasteurellaceae_undefined</i>	0.117	0
<i>Aggregatibacter</i>	7.82	0.819
<i>Haemophilus</i>	0.016	2.768
<i>Acinetobacter</i>	0.052	0
<i>Moraxella</i>	0.074	0
<i>Pseudomonas</i>	0.756	0.072
<i>Vibrio</i>	0.022	0
<i>Treponema</i>	4.679	0.867
<i>Fretibacterium</i>	1.128	1.124

Table S3. Sequenced operational taxonomic units and their proportion (%) in the saliva samples of a patient with periodontitis at baseline and after antibiotic therapy, for the taxonomic level of phylum.

Phylum	% at baseline	% post-therapy
<i>Actinobacteriota</i>	0.71	3.18
<i>Bacteroidota</i>	6.65	19.85
<i>Campylobacterota</i>	0.00	0.44
<i>Cyanobacteria</i>	0.03	0.00
<i>Desulfobacterota</i>	0.01	0.04
<i>Firmicutes</i>	43.77	54.81
<i>Fusobacteriota</i>	0.30	5.23
<i>Patescibacteria</i>	0.05	3.70
<i>Proteobacteria</i>	48.47	9.97
<i>Spirochaetota</i>	0.02	2.40
<i>Synergistota</i>	0.00	0.36

Table 4. Sequenced operational taxonomic units and their proportion (%) in the saliva samples of a patient with periodontitis at baseline and after antibiotic therapy, for the taxonomic level of genus.

Genus	% at baseline	% post-therapy
<i>Actinomyces</i>	0.171	0.452
<i>Actinomycetaceae_F0332</i>	0.364	0.409
<i>Bifidobacterium</i>	0	0.019
<i>Corynebacterium</i>	0	0.278
<i>Rothia</i>	0.012	1.162
<i>Pseudopropionibacterium</i>	0.159	0.017
<i>Atopobium</i>	0	0.577
<i>Olsenella</i>	0	0.254
<i>Slackia</i>	0	0.012
<i>Bacteroides</i>	0	0.014
<i>Phocaeicola</i>	0.013	0.002
<i>Paludibacteraceae_F0058</i>	0.014	0.284
<i>Porphyromonas</i>	0	2.812
<i>Alloprevotella</i>	0.02	4.242
<i>Prevotella</i>	0.073	11.125
<i>Rikenellaceae_RC9_gut_group</i>	0.002	0.14
<i>Tannerella</i>	0.003	0.254
<i>Capnocytophaga</i>	4.863	0.576
<i>Bergeyella</i>	1083	0.101
<i>Chryseobacterium</i>	0.573	0.119
<i>Lentimicrobium</i>	0.007	0.184
<i>Campylobacter</i>	0	0.441
<i>Chloroplast</i>	0.034	0
<i>Desulfobulbus</i>	0	0.028
<i>Desulfovibrio</i>	0.008	0.014
<i>Bulleidia</i>	0.01	0.052
<i>Erysipelotrichaceae_UCG-006</i>	0	0.012
<i>Solobacterium</i>	0	0.154
<i>Lactobacillales_undefined</i>	0	1.451
<i>Abiotrophia</i>	17.654	0.12
<i>Granulicatella</i>	7.39	0.677
<i>Marinilactibacillus</i>	0.008	0
<i>Lactobacillus</i>	0.062	0
<i>Pediococcus</i>	0.013	0
<i>Streptococcus</i>	15.654	32.742
<i>Mycoplasma</i>	0.078	0.113
<i>Gemella</i>	1.919	4.791
<i>Clostridia_UCG-014</i>	0	0.654

<i>Defluviitaleaceae_UCG-011</i>	0	0.098
<i>Lachnospiraceae_undefined</i>	0	0.019
<i>Butyrivibrio</i>	0	0.038
<i>Catonella</i>	0	1.03
<i>Howardella</i>	0	0.037
<i>Johnsonella</i>	0	0.345
<i>Lachnoanaerobaculum</i>	0	0.303
<i>Oribacterium</i>	0.003	0.13
<i>Shuttleworthia</i>	0	0.107
<i>Stomatobaculum</i>	0	0.059
<i>Lachnospiraceae_uncultured</i>	0	0.061
<i>Peptococcus</i>	0	0.386
<i>Amnipila</i>	0	0.038
<i>Anaerovoracaceae_Family_XIII_UCG-001</i>	0	0.09
<i>Mogibacterium</i>	0	0.038
<i>Eubacterium_brachy_group</i>	0.002	0.846
<i>Eubacterium_nodatum_group</i>	0	0.109
<i>Eubacterium_saphenum_group</i>	0.006	0.431
<i>Anaerovoracaceae_uncultured</i>	0	0.18
<i>Filifactor</i>	0.007	0.404
<i>Peptoanaerobacter</i>	0	0.101
<i>Peptostreptococcus</i>	0.006	1.628
<i>Eubacterium_yurii_group</i>	0	0.108
<i>Parvimonas</i>	0	1.15
<i>Selenomonadaceae_undefined</i>	0	0.369
<i>Centipeda</i>	0	0.461
<i>Selenomonas</i>	0.01	1.237
<i>Anaeroglobus</i>	0	0.21
<i>Dialister</i>	0.002	0.344
<i>Megasphaera</i>	0	0.066
<i>Veillonella</i>	0.94	3.624
<i>Fusobacterium</i>	0.012	2.909
<i>Leptotrichia</i>	0.286	1.954
<i>Streptobacillus</i>	0	0.368
<i>Absconditabacteriales_(SR1)</i>	0	1.249
<i>Gracilibacteria</i>	0	0.061
<i>Saccharimonadales_undefined</i>	0	0.048
<i>Candidatus_Saccharimonas</i>	0.002	0.175
<i>Saccharimonadaceae</i>	0.041	0.5
<i>Saccharimonadaceae_TM7x</i>	0	0.51
<i>Saccharimonadales</i>	0.01	1.159
<i>Lautropia</i>	16.821	0.037
<i>Comamonas</i>	0	0.024

<i>Delftia</i>	0.007	0.107
<i>Neisseriaceae_undefined</i>	0.176	0
<i>Eikenella</i>	0.335	0
<i>Kingella</i>	0.327	0
<i>Neisseria</i>	8.857	5.201
<i>Propionivibrio</i>	0	0.04
<i>Cardiobacterium</i>	0	0.127
<i>Suttonella</i>	0.008	0
<i>Raoultella</i>	0.097	0
<i>Serratia</i>	0.226	0
<i>Pasteurellaceae_undefined</i>	0	0.017
<i>Actinobacillus</i>	0	0.793
<i>Aggregatibacter</i>	0.056	0.956
<i>Haemophilus</i>	4.664	0.93
<i>Acinetobacter</i>	0.044	0.037
<i>Faucicola</i>	0	0.317
<i>Moraxella</i>	0	0.055
<i>Pseudomonas</i>	16.848	0.663
<i>Stenotrophomonas</i>	0	0.666
<i>Treponema</i>	0.017	2402
<i>Fretibacterium</i>	0	0.363