ORIGINAL RESEARCH

Perotin et al

**Supplementary material**

**Title: High blood eosinophil count at stable state is not associated with airway microbiota distinct profile in COPD**

Table S1: Patient’s lung function characteristics and questionnaires

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   |   | Total | Low BEC | High BEC | p-value |
| n | 59 | 40 | 19 |  |
| FEV1, % pred | 46.4 ± 19.6 | 45.4 ± 17.9 | 48.7 ± 20.8 | 0.260 |
| FEV1/FVC | 47.0 ± 88.9 | 46.2 ± 11.2 | 48.6 ± 10.5 | 0.220 |
| RV, % pred | 220.9 ± 26.8 | 220.6 ± 87.6 | 221.5 ± 94.4 | 0.487 |
| TLC, % pred | 130.8 ± 23.0 | 130.1 ± 26.5 | 132.2 ± 28.1 | 0.393 |
| DLCO, % pred | 46.0 ± 23.0 | 44.2 ± 22.7 | 50.9 ± 23.9 | 0.206 |
| Spirometric GOLD |  |  |  |  |
|  | 1 | 1 (1.7) | 0 (0.0) | 1 (5.3) | 0.157 |
|  | 2 | 24 (40.7) | 18 (45.0) | 6 (31.6) |
|  | 3 | 22 (37.3) | 12 (30.0) | 10 (52.6) |
|  | 4 | 12 (20.3) | 10 (25.0) | 2 (10.5) |
| GOLD ABE classification |  |  |  |  |
| A |  | 4 (6.7) | 3 (7.5) | 1 (5.3) | 0.944 |
| B |  | 22 (37.3) | 15 (37.5) | 7 (36.8) |
| E |  | 33 (56.0) | 22 (55.0) | 11 (57.9) |
| Arterial blood gases in room air, n |  |  |  |  |
|  | PaO2 | 73.4 ± 12.6 | 73.6 ± 13.5 | 73.2 ± 10.9 | 0.451 |
|  | PaCO2 | 39.8 ± 6.3 | 39.5 ± 6.9 | 40.4 ± 5.0 | 0.295 |
|  | SaO2 | 95.0 ± 3.3 | 95.1 ± 3.7 | 94.8 ± 2.7 | 0.400 |
| 6-minute walking test in room air, n |  |  |  |  |
|  | Desaturation | 23 (39.0) | 17 (42.5) | 6 (31.6) | 0.298 |
|  | Distance, % pred | 67.3 ± 23.1 | 67.6 ± 23.3 | 66.8 ± 23.5 | 0.457 |
|  CT-scan emphysema score, /24 | 8 [6-14] | 8 [6-14] | 8 [4-13] | 0.171 |
| HAD scores |  |  |  |  |
|  | Anxiety score | 7.8 ± 4.5 | 7.7 ± 4.0 | 8.1 ± 5.7 | 0.379 |
|  | Anxiety score > 7 | 25 (45.5) | 17 (45.9) | 8 (44.4) | 1.000 |
|  | Depression score | 6.6 ± 3.8 | 6.8 ± 3.6 | 6.2 ± 4.4 | 0.299 |
|  | Depression score > 7 | 21 (38.2) | 14 (37.8) | 7 (38.9) | 1.000 |
| SF36 scores |  |  |  |  |
|  | Physical Health | 35.2 ± 10.4 | 34.4 ± 9.6 | 36.9 ± 12.0 | 0.211 |
|  | Mental Health | 32.6 ± 18.2 | 35.0 ± 16.6 | 28.2 ± 20.7 | 0.101 |
| SGRQ scores |  |  |  |  |
|  | Symptom score | 53.5 ± 21.4 | 52.7 ± 21.9 | 54.7 ± 21.2 | 0.384 |
|  | Activity score | 66.5 ± 21.6 | 65.8 ± 22.7 | 67.9 ± 20.1 | 0.380 |
|  | Impact score | 42.0 ± 20.9 | 38.9 ± 22.0 | 47.6 ± 18.1 | 0.092 |
|   | Total score | 50.5 ± 19.9 | 49.4 ± 20.2 | 52.5 ± 19.9 | 0.303 |

Table S2: Prevalence and quantification of the bacteria in the viable airway microbiota in low and high BEC groups.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Low BEC** | **n = 40** | **%** | **Med** | **High BEC** | **n = 19** | **%** | **Med** |
| *Streptococcus oralis/mitis/pneumoniae* | 36 | 90 | 1,00E+07 | *Streptococcus oralis/mitis/pneumoniae* | 18 | 94.7 | 5,50E+06 |
| *Veillonella parvula/dispar/ atypica* | 25 | 62.5 | 1,00E+06 | *Streptococcus salivarius/vestibularis* | 9 | 47.4 | 1,00E+06 |
| *Rothia mucilaginosa* | 21 | 52.5 | 1,00E+06 | *Rothia dentocariosa* | 7 | 36.8 | 1,00E+06 |
| *Streptococcus salivarius/vestibularis* | 20 | 50 | 1,00E+06 | *Streptococcus parasanguinis* | 7 | 36.8 | 1,00E+06 |
| *Streptococcus parasanguinis* | 15 | 37.5 | 1,00E+06 | *Actinomyces odontolyticus* | 6 | 31.6 | 1,00E+05 |
| *Rothia dentocariosa* | 14 | 35 | 1,00E+06 | *Neisseria perflava/flavescens* | 6 | 31.6 | 5,50E+04 |
| *Neisseria perflava/flavescens* | 12 | 30 | 5,50E+06 | *Rothia mucilaginosa* | 6 | 31.6 | 1,00E+05 |
| *Neisseria subflava/macacae/mucosa* | 11 | 27.5 | 1,00E+07 | *Actinomyces oris* | 5 | 26.3 | 1,00E+06 |
| *Actinomyces oris* | 8 | 20 | 5,50E+05 | *Haemophilus parainfluenzae* | 4 | 21.1 | 5,50E+05 |
| *Streptococcus sanguinis* | 8 | 20 | 7,50E+06 | *Rothia aeria* | 4 | 21.1 | 5,05E+05 |
| *Haemophilus parainfluenzae* | 7 | 17.5 | 1,00E+06 | *Staphylococcus aureus* | 3 | 15.8 | 1,00E+04 |
| *Actinomyces odontolyticus* | 6 | 15 | 5,50E+06 | *Streptococcus sanguinis* | 3 | 15.8 | 1,00E+07 |
| *Haemophilus influenzae* | 5 | 12.5 | 1,00E+07 | *Actinomyces graevenitzii* | 2 | 10.5 | 5,05E+05 |
| *Staphylococcus aureus* | 5 | 12.5 | 1,00E+06 | *Branhamella catarrhalis* | 2 | 10.5 | 5,50E+07 |
| *Escherichia coli* | 4 | 10 | 5,50E+05 | *Escherichia coli* | 2 | 10.5 | 1,00E+03 |
| *Branhamella catarrhalis* | 3 | 7.5 | 1,00E+06 | *Gemella haemolysans* | 2 | 10.5 | 5,05E+06 |
| *Lactobacillus fermentum* | 3 | 7.5 | 5,00E+04 | *Granulicatella adiacens* | 2 | 10.5 | 5,00E+07 |
| *Lactobacillus paracasei* | 3 | 7.5 | 1,00E+04 | *Haemophilus parahaemolyticus* | 2 | 10.5 | 1,00E+05 |
| *Rothia aeria* | 3 | 7.5 | 1,00E+06 | *Klebsiella oxytoca* | 2 | 10.5 | 5,05E+06 |
| *Gemella haemolysans* | 2 | 5 | 5,50E+06 | *Lactobacillus fermentum* | 2 | 10.5 | 5,50E+03 |
| *Gemella sanguinis* | 2 | 5 | 5,50E+04 | *Lactobacillus paracasei* | 2 | 10.5 | 1,00E+04 |
| *Prevotella melaninogenica* | 2 | 5 | 5,50E+06 | *Lactobacillus salivarius* | 2 | 10.5 | 5,05E+06 |
| *Pseudomonas aeruginosa* | 2 | 5 | 5,00E+06 | *Micrococcus luteus* | 2 | 10.5 | 5,50E+04 |
| *Streptococcus constellatus* | 2 | 5 | 5,00E+08 | *Neisseria subflava/macacae/mucosa* | 2 | 10.5 | 5,01E+05 |
| *Streptococcus cristatus* | 2 | 5 | 1,00E+07 | *Streptococcus cristatus* | 2 | 10.5 | 6,50E+05 |
| *Streptococcus gordonii* | 2 | 5 | 5,01E+07 | *Streptococcus gordonii* | 2 | 10.5 | 5,50E+06 |
| *Streptococcus mutans* | 2 | 5 | 5,50E+05 | *Bifidobacterium dentium* | 1 | 5.3 | 1,00E+03 |
| *Actinomyces graevenitzii* | 1 | 2.5 | 1,00E+06 | *Citrobacter braakii* | 1 | 5.3 | 1,00E+07 |
| *Aggregatibacter aphrophilum* | 1 | 2.5 | 1,00E+06 | *Citrobacter koseri* | 1 | 5.3 | 1,00E+06 |
| *Aggregatibacter segnis* | 1 | 2.5 | 1,00E+09 | *Enterobacter cloacae* | 1 | 5.3 | 1,00E+05 |
| *Citrobacter freundii* | 1 | 2.5 | 1,00E+06 | *Enteroccocus faecalis* | 1 | 5.3 | 1,00E+04 |
| *Corynebacterium durum* | 1 | 2.5 | 1,00E+09 | *Haemophilus influenzae* | 1 | 5.3 | 1,00E+07 |
| *Corynebacterium propinquum* | 1 | 2.5 | 1,00E+06 | *Lactobacillus gasseri* | 1 | 5.3 | 1,00E+05 |
| *Enterobacter cloacae* | 1 | 2.5 | 1,00E+06 | *Lactobacillus rhamnosus* | 1 | 5.3 | 5,00E+04 |
| *Enteroccocus faecalis* | 1 | 2.5 | 1,00E+06 | *Lactococcus lactis* | 1 | 5.3 | 1,00E+05 |
| *Granulicatella adiacens* | 1 | 2.5 | 1,00E+09 | *Porphyromonas endodontalis* | 1 | 5.3 | 5,00E+04 |
| *Hafnia alvei* | 1 | 2.5 | 1,00E+06 | *Prevotella denticola* | 1 | 5.3 | 1,00E+04 |
| *Lactobacillus delbrueckii* | 1 | 2.5 | 1,00E+05 | *Propionibacterium acnes* | 1 | 5.3 | 1,00E+07 |
| *Lactobacillus plantarum* | 1 | 2.5 | 1,00E+05 | *Pseudomonas aeruginosa* | 1 | 5.3 | 1,00E+03 |
| *Micrococcus luteus* | 1 | 2.5 | 1,00E+03 | *Raoultella ornithinolytica* | 1 | 5.3 | 1,00E+07 |
| *Moraxella catarrhalis* | 1 | 2.5 | 1,00E+08 | *Staphylococcus epidermidis* | 1 | 5.3 | 1,00E+05 |
| *Moraxella osloensis* | 1 | 2.5 | 1,00E+03 | *Staphylococcus haemolyticus* | 1 | 5.3 | 1,00E+07 |
| *Morganella morganii* | 1 | 2.5 | 5,00E+06 | *Staphylococcus hominis* | 1 | 5.3 | 1,00E+07 |
| *Neisseria elongata* | 1 | 2.5 | 1,00E+09 | *Streptococcus agalactiae* | 1 | 5.3 | 1,00E+04 |
| *Paracoccus yeei* | 1 | 2.5 | 1,00E+03 | *Streptococcus constellatus* | 1 | 5.3 | 1,00E+07 |
| *Parvimonas micra* | 1 | 2.5 | 1,00E+04 | *Streptococcus mutans* | 1 | 5.3 | 1,00E+05 |
| *Prevotella salivae* | 1 | 2.5 | 1,00E+07 | *Veillonella denticariosi* | 1 | 5.3 | 1,00E+04 |
| *Propionibacterium acnes* | 1 | 2.5 | 1,00E+05 | *Veillonella parvula/dispar/ atypica* | 1 | 5.3 | 1,00E+05 |
| *Proteus mirabilis* | 1 | 2.5 | 1,00E+03 |  |  |  |  |
| *Pseudomonas koreensis* | 1 | 2.5 | 1,00E+03 |  |  |  |  |
| *Rhizobium radiobacter* | 1 | 2.5 | 1,00E+08 |  |  |  |  |
| *Selenomonas artemidis* | 1 | 2.5 | 1,00E+06 |  |  |  |  |
| *Stenotrophomonas maltophilia* | 1 | 2.5 | 1,00E+06 |  |  |  |  |
| *Streptococcus peroris* | 1 | 2.5 | 1,00E+08 |  |  |  |  |