

Supplement

Local and Systemic Alterations of the L-Arginine/Nitric Oxide Pathway in the Sputum, Blood and Urine of Pediatric Cystic Fibrosis Patients and Effects of Antibiotic Treatment

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Table S1: Number of CF patients and controls with eligible data for the mentioned Arg/NO parameters.

	Number of CF patients	Number of healthy controls
Arg (P)	68	74
Citrulline (P)	69	0
ADMA (P)	68	75
Arg/ADMA (P)	68	73
Nitrate (P)	68	46
Nitrite (P)	68	46
P _{NOxR}	68	46
ADMA (U)	68	62
DMA (U)	68	53
DMA/ADMA (U)	68	53
Nitrate (U)	68	62
Nitrite (U)	68	61
U _{NOxR}	68	61

Abbreviations. Arg, Arginine; ADMA, asymmetric dimethylamine; Arg/ADMA, arginine/asymmetric dimethylarginine ratio; DMA, dimethylamine; DMA/ADMA, dimethylamine/asymmetric dimethylarginine ratio; (P), plasma; P_{NOxR}, nitrate/nitrite ratio in plasma; (U), urine; U_{NOxR}, nitrate/nitrite ratio in urine. The number of subjects varied due to missing samples and small sample volumes in pediatric CF patients and controls.

Table S2. Summary of the significant results of Pearson correlation analyses between members of the Arg/NO pathway in sputum (S), plasma (P) and urine (U) in cystic fibrosis patients who gave sputum.

Correlation pair	Correlation coefficient	P value	Data pairs (n)
Arg (S) vs ADMA (S)	0.896	0.001	9
ADMA (S) vs Arg/ADMA (S)	-0.673	0.047	9
Nitrate (S) vs Nitrite (S)	0.729	0.026	9
DMA (S) vs DMA/ADMA (S)	0.973	< 0.001	9
Arg/ADMA(S) vs ADMA (U)	0.719	0.029	9
Arg/ADMA(S) vs Nitrate (U)	0.747	0.021	9
Nitrate (S) vs U _{NOxR}	0.779	0.013	9
Nitrite (S) vs U _{NOxR}	0.723	0.028	9
S _{NOxR} vs DMA/ADMA (U)	0.693	0.038	9
Arg (P) vs Arg/ADMA (P)	0.780	0.013	9
ADMA (P) vs Nitrite (P)	-0.796	0.010	9
ADMA (P) vs P _{NOxR}	0.710	0.032	9
Nitrate (P) vs Arg/ADMA (P)	-0.736	0.024	9
Nitrate (P) vs P _{NOxR}	0.937	< 0.001	9
ADMA (P) vs ADMA (U)	0.678	0.045	9
ADMA (P) vs Nitrate (U)	0.680	0.044	9
Nitrate (P) vs DMA (U)	0.731	0.025	9
Nitrate (P) vs Nitrate (U)	0.810	0.008	9
P _{NOxR} vs Nitrate (U)	0.775	0.014	9
ADMA (U) vs DMA (U)	0.685	0.042	9
ADMA (U) vs Nitrate (U)	0.927	< 0.001	9
ADMA (U) vs Nitrite (U)	0.716	0.030	9
DMA (U) vs Nitrate (U)	0.809	0.008	9
DMA (U) vs Nitrite (U)	0.675	0.046	9
Nitrate (U) vs Nitrite (U)	0.735	0.024	9

Abbreviations. Arg, Arginine; ADMA, asymmetric dimethylamine; Arg/ADMA, arginine/asymmetric dimethylarginine ratio; DMA, dimethylamine; DMA/ADMA, dimethylamine/asymmetric dimethylarginine ratio; (P), plasma; P_{NOxR}, nitrate/nitrite ratio in plasma; (S), sputum; S_{NOxR}, nitrate/nitrite ratio in sputum; (U), urine; U_{NOxR}, nitrate/nitrite ratio in urine.

Table S3. Summary of the results of correlation analyses between members of the Arg/NO pathway in plasma (P) and urine (U) in the controls of the study.

Correlation pair	Correlation coefficient	p value	Data pairs (n)
Arg (P) vs. ADMA (P)	0.280	0.016^a	73
Arg (P) vs. Arg/ADMA (P)	0.673	< 0.001^b	73
Arg (P) vs. Nitrat (P)	0.116	0.442 ^b	46
Arg (P) vs. Nitrite (P)	-0.252	0.091 ^b	46
Arg (P) vs. P_{NOxR} (P)	0.313	0.034^b	46
Arg (P) vs. ADMA (U)	0.237	0.074 ^a	59
Arg (P) vs. DMA (U)	-0.020	0.888 ^b	51
Arg (P) vs. DMA/ADMA (U)	-0.173	0.225 ^b	51
Arg (P) vs. Nitrat (U)	-0.128	0.334 ^b	59
Arg (P) vs. Nitrite (U)	0.157	0.236 ^b	59
Arg (P) vs. U _{NOxR}	-0.150	0.258 ^b	59
ADMA (P) vs. Arg/ADMA (P)	-0.403	< 0.001^b	73
ADMA (P) vs. Nitrat (P)	0.159	0.292 ^b	46
ADMA (P) vs. Nitrite (P)	0.184	0.221 ^b	46
ADMA (P) vs. P _{NOxR} (P)	-0.057	0.708 ^b	46
ADMA (P) vs. ADMA (U)	0.464	< 0.001^a	59
ADMA (P) vs. DMA (U)	-0.049	0.586 ^b	50
ADMA (P) vs. DMA/ADMA (U)	-0.325	0.021^b	50
ADMA (P) vs. Nitrat (U)	-0.007	0.957 ^b	59
ADMA (P) vs. Nitrite (U)	0.373	0.004^b	58
ADMA (P) vs. U_{NOxR}	-0.353	0.007^b	58
Nitrat (P) vs. Arg/ADMA (P)	-0.001	0.993 ^b	46
Nitrat (P) vs. Nitrite (P)	0.038	0.802 ^b	46
Nitrat (P) vs. P_{NOxR} (P)	0.633	< 0.001^b	46
Nitrat (P) vs. ADMA (U)	0.113	0.519 ^b	35
Nitrat (P) vs. DMA (U)	0.042	0.820 ^b	32
Nitrat (P) vs. DMA/ADMA (U)	0.025	0.892 ^b	32
Nitrat (P) vs. Nitrat (U)	0.250	0.147 ^b	35
Nitrat (P) vs. Nitrite (U)	-0.014	0.934 ^b	35
Nitrat (P) vs. U _{NOxR}	0.246	0.154 ^b	35
Nitrite (P) vs. Arg/ADMA (P)	-0.402	0.006^b	46
Nitrite (P) vs. P_{NOxR} (P)	-0.708	< 0.001^b	46
Nitrite (P) vs. ADMA (U)	0.099	0.570 ^b	35
Nitrite (P) vs. DMA (U)	-0.221	0.224 ^b	32
Nitrite (P) vs. DMA/ADMA (U)	-0.271	0.134 ^b	32
Nitrite (P) vs. Nitrat (U)	-0.080	0.647 ^b	35
Nitrite (P) vs. Nitrite (U)	0.353	0.038^b	35
Nitrite (P) vs. U_{NOxR}	-0.380	0.025^b	35
Arg/ADMA (P) vs. P_{NOxR} (P)	0.382	0.009^b	46
Arg/ADMA (P) vs. ADMA (U)	-0.064	0.632 ^b	58
Arg/ADMA (P) vs. DMA (U)	-0.001	0.992 ^b	50
Arg/ADMA (P) vs. DMA/ADMA (U)	0.129	0.374 ^b	50
Arg/ADMA (P) vs. Nitrat (U)	0.002	0.988 ^b	58

Arg/ADMA (P) vs. Nitrite (U)	-0.054	0.687 ^b	58
Arg/ADMA (P) vs. U _{NOxR}	0.096	0.474 ^b	58
P _{NOxR} (P) vs. ADMA (U)	0.032	0.854 ^b	35
P _{NOxR} (P) vs. DMA (U)	0.228	0.209 ^b	32
P _{NOxR} (P) vs. DMA/ADMA (U)	0.232	0.201 ^b	32
P _{NOxR} (P) vs. Nitrat (U)	0.249	0.150 ^b	35
P _{NOxR} (P) vs. Nitrite (U)	-0.263	0.127 ^b	35
P_{NOxR} (P) vs. U_{NOxR}	0.449	0.007^b	35
ADMA (U) vs. DMA (U)	0.245	0.076 ^b	53
ADMA (U) vs. DMA/ADMA (U)	-0.255	0.065 ^b	53
ADMA (U) vs. Nitrat (U)	0.249	0.051 ^b	62
ADMA (U) vs. Nitrite (U)	0.367	0.004^b	61
ADMA (U) vs. U _{NOxR}	-0.199	0.125 ^b	61
DMA (U) vs. DMA/ADMA (U)	0.811	< 0.001^b	53
DMA (U) vs. Nitrat (U)	0.155	0.268 ^b	53
DMA (U) vs. Nitrite (U)	-0.261	0.059 ^b	53
DMA (U) vs. U _{NOxR}	0.274	0.047 ^b	53
DMA/ADMA (U) vs. Nitrat (U)	-0.012	0.929 ^b	53
DMA/ADMA (U) vs. Nitrite (U)	-0.482	< 0.001^b	53
DMA/ADMA (U) vs. U_{NOxR}	0.381	0.005^b	53
Nitrat (U) vs. Nitrite (U)	0.359	0.004^b	61
Nitrat (U) vs. U _{NOxR}	0.215	0.096 ^b	61
Nitrite (U) vs. U_{NOxR}	-0.785	< 0.001^b	61

Abbreviations. Arg, arginine; ADMA, asymmetric dimethylarginine; DMA, dimethylamine; P, plasma; U, urine; P_{NOxR}, plasma nitrate/nitrite ratio; U_{NOxR}, urinary nitrate/nitrite ratio; ^aPearson correlation; ^bSpearman correlation. Significant results are marked in bold.