Online supplement

Results

There was a correlation between exhaled LTB_4 and PGE_2 concentrations before treatment with ibuprofen (r=0.68, p <0.01, n=14) and before (r=0.65, p <0.01, n=14) and after matched placebo (r=0.70, p <0.005, n=14), but not after ibuprofen (r=–0.09, p=0.75, n=14) (see fig S1A–C available online only). There was a correlation between LTB_4 and PGE_2 concentrations in EBC at baseline (r=0.58, p <0.02, n=16) and before treatment with rofecoxib (r=0.60, p <0.02, n=16), whereas there was a trend towards a correlation between LTB_4 and PGE_2 concentrations which did not reach statistical significance (r=0.49, p=0.054, n=16) after treatment with rofecoxib (see fig S2A–C available online only). 8-Isoprostane concentrations in EBC were not correlated with the concentration of either LTB_4 or PGE_2 in either the ibuprofen or the rofecoxib study.

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Figure S1 Correlation between LTB_4 and PGE_2 concentrations in exhaled breath condensate (A) before treatment with oral ibuprofen (r=0.68, p<0.01, n=14), (B) before matched placebo (r=0.65, p<0.01, n=14), and (C) after placebo (400♣mg four times a day for 2♣days) (r=0.70, p<0.005, n=14).

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Figure S2 Correlation between LTB_4 and PGE_2 concentrations in exhaled breath condensate (A) at baseline (r=0.58, p<0.02, n=16), (B) before (r=0.60, p<0.02, n=16), and (C) after treatment with oral rofecoxib (25♣mg once a day for 5♣days) (r=0.49, p=0.054, n=16).

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Figure S3 Correlation between 8-isoprostane concentrations in exhaled breath condensate and Pa_{O_2} values at baseline (r=–0.67, p<0.005, n=16).

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Figure S4 (A) Pa_{O_2}, (B) Pa_{CO_2}, and (C) pH values in 10 patients with COPD at baseline (day –14), before (day 0), and after treatment with oral rofecoxib 25♣mg once a day for 5♣days (day 5). Values are expressed as means.

Table S1 Effects of oral ibuprofen (400♣mg qid) for 2♣days on pulmonary function tests in patients with COPD*

	Pre-treatment (n=14)	**Post-treatment (n=14)**	**p value**
FEV_1 (l)	0.96 (0.10)	0.93 (0.11)	0.35
FEV_1 (% pred)	38.0 (3.4)	37.4 (3.8)	0.61
FVC (l)	2.06 (0.13)	2.00 (0.13)	0.18
FVC (% pred)	66.1 (3.5)	64.5 (4.1)	0.26
FEV_1/FVC (%)	45.7 (2.6)	45.6 (2.7)	0.89

COPD, chronic obstructive pulmonary disease; FEV_1, forced expiratory volume in one second; FVC, forced vital capacity.

*One patient was excluded from the study because of lack of compliance with treatment.

Data are expressed as mean (SE).

Table S2 Effects of oral placebo (400♣mg qid) for 2♣days on pulmonary function tests in patients with COPD*

	Pre-treatment (n=14)	**Post-treatment (n=14)**	**p value**
FEV_1 (l)	0.97 (0.11)	0.99 (0.12)	0.68
FEV_1 (% pred)	38.9 (4.0)	39.2 (4.2)	0.87
FVC (l)	2.08 (0.14)	2.09 (0.14)	0.85
FVC (% pred)	66.5 (3.9)	67.1 (4.2)	0.79
FEV_1/FVC (%)	45.2 (2.8)	46.3 (3.3)	0.98

COPD, chronic obstructive pulmonary disease; FEV_1, forced expiratory volume in one second; FVC, forced vital capacity.

*One patient was excluded from the study because of lack of compliance with treatment.

Data are expressed as mean (SE).

Table S3 Effects of oral rofecoxib (25♣mg/day) for 5♣days on pulmonary function tests in patients with COPD*

	Visit 1 (n=16)	**Visit 2(n=16)**	**Visit 3 (n=16)**	**p value**
FEV_1 (l)	1.51 (0.11)	1.53 (0.13)	1.49 (0.11)	0.50
FEV_1 (% pred)	59.6 (3.4)	58.5 (3.6)	58.3 (3.2)	0.45
FVC (l)	2.82 (0.18)	2.80 (0.20)	2.78 (0.17)	0.77
FVC (% pred)	85.8 (3.8)	84.0 (3.8)	84.4 (3.4)	0.52
FEV_1/FVC (%)	54.4 (2.6)	54.1 (2.3)	54.0 (2.5)	0.82

COPD, chronic obstructive pulmonary disease; FEV_1, forced expiratory volume in one second; FVC, forced vital capacity.

*Seventeen patients were enrolled. One patient was excluded from the study because of COPD exacerbation during treatment with rofecoxib.

Data are expressed as mean (SE).

Table S4 Effects of oral rofecoxib (25♣mg/day) for 5♣days on absolute and differential cell counts in sputum in patients with COPD*

	Visit 1 (n=15)	**Visit 2 (n=15)**	**Visit 3 (n=15)**	**p value**
Total cell count ($\times 10^5$ cells/ml)	12.0 (6.5–15)	7.2 (4.9–11.6)	7.5 (5.3–10.1)	0.55
Squamous cells (%)	13.0 (10.5–35.5)	13.0 (11.5–17.0)	15.0 (7.0–20.0)	0.77
Macrophages ($\times 10^5$ cells/ml)	2.0 (1.1–2.9)	1.9 (1.1–3.2)	1.4 (1.0–2.5)	0.77
Macrophages (%)	27.7 (14.1–49.0)	31.9 (16.3–45.6)	26.6 (16.4–35.3)	0.31
Neutrophils ($\times 10^5$ cells/ml)	6.6 (1.7–9.5)	4.3 (2.9–5.3)	4.5 (2.8–5.7)	0.77
Neutrophils (%)	67.8 (38.5–75.5)	57.4 (44.3–73.8)	64.6 (56.4–73.8)	0.59
Lymphocytes ($\times 10^5$ cells/ml)	0.8 (0.4–1.2)	0.5 (0.2–1.0)	0.3 (0.2–1)	0.42
Lymphocytes (%)	10.6 (7.9–12.8)	9.1 (6.8–10.8)	8.1 (4.3–11.6)	0.53
Eosinophils ($\times 10^5$ cells/ml)	0.3 (0.1–0.4)	0.2 (0.2–0.3)	0.2 (0.1–0.3)	0.77
Eosinophils (%)	3.1 (2.9–3.6)	3.5 (3.0–3.7)	3.0 (2.9–3.6)	0.69

*Seventeen patients were enrolled. One patient was excluded from the study because of COPD exacerbation during treatment with rofecoxib; three samples from another patient had more than 50% squamous cell contamination and were therefore excluded from analysis.

Values are expressed as median (25^{th} to 75^{th} percentile).

Squamous cells are expressed as the percentage of all cells. Macrophages, neutrophils, lymphocytes, and eosinophil counts are expressed as the percentage of non-squamous cells.