REFERENCES


To the Editor:

Drs. Rodrigo and Rodrigo in their letter suggest that the heliox group had a more rapid onset than the oxygen group. In our study (CHEST, August 1999), there was a considerable overlap in duration of symptoms between the groups, which was not statistically significant (p = 0.30). Previously it had been demonstrated that patients with a duration of symptoms < 72 h had a better chance of responding successfully to heliox. Almost all of the oxygen group patients had a duration of symptoms < 72 h, and yet only 17% had a 20% increase in peak expiratory flow (PEF) and percent predicted PEF (%PEF), while 100% of the heliox group did. They also suggest that the heliox group had more severe asthma at presentation than the oxygen group, which could have accounted for the differences found between the groups in response to the treatments. Since the intrinsic variation in PEF is large, the mean differences in PEF and %PEF between the groups of 19.1 L/min and 4.4%, respectively, are small and were not statistically significant (p = 0.27). There were trends for the heliox group to have higher dyspnea scores and vital signs. Since both groups had severe airflow obstruction with a %PEF < 31% that was not statistically significant, it is highly unlikely that these small differences in PEF and trends in dyspnea scores and vital signs between the groups biased the data such that all of the heliox group had a rapid response to treatment while only a few of the oxygen group did.

Dr. Carter alludes to the statement in our discussion that “similar objective findings have been demonstrated in children.” He takes exception to our reference to his study supporting this statement. The objective findings that we referred to were PEF and dyspnea and not FEV1. In fact, his study did show a significant (p = 0.04) difference in %PEF between heliox and air (control) treatment arms. He is correct in that there were no statistically significant differences in dyspnea scores between the groups, but this may have been due to the very low baseline scores (mean 2.5 on a 0 to 10 scale). While his study did not show a significant difference between the treatments for percent predicted FEV1 (%FEV1), there was a difference in %PEF and percent predicted FEV2.5-75, (midexpiratory flow rate). There was also a trend for improvement in %FEV1 for heliox when compared to baseline. It is also more common to look for an improvement in FEV1, by using percent change in actual value from baseline than change in percent predicted. This may have improved the analysis of the response to heliox. There is also a second reference supporting the alluded-to statement, which shows a 69.4% increase in PEF and decrease in dyspnea score from 5.7 to 1.9. Both of these values are highly statistically significant. Dr. Carter also questions the effect of heliox on PEF with uncalibrated peak flowmeters. As we referenced in our discussion, it has been shown that heliox causes a large underestimation of PEF and that correcting for heliox greatly increases the improvement in PEF with heliox.

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REFERENCES


Inhaled Indomethacin in Bronchorrhea in Bronchioloalveolar Carcinoma

Role of Cyclooxygenase

To the Editor:

In patients with bronchioloalveolar carcinoma, airway obstruction by a copious amount of sputum provides a risk for respiratory failure and even death. Homma et al (CHEST, May 1999)2 have shown that inhaled indomethacin reduces refractory bronchorrhea in bronchioloalveolar carcinoma, suggesting a role of cyclooxygenase in airway hypersecretion in this disease.

We thus studied the effect of inhaled indomethacin on sputum production and the expression of cyclooxygenase-2 (COX-2) messenger RNA (mRNA) in seven patients with bronchioloalveolar carcinoma having bronchorrhea. A transbronchial lung biopsy was taken from the most affected area, and the gene expression was assessed by Northern blotting. The COX-2 primers were 5′-TCTGATGTATGTCACAAATCGA-3′ (sense) and 5′-GATGGTATGAGAGGTATTTAAA-3′ (antisense), giving rise to a 276-base pair polymerase chain reaction product. Then, each patient received inhaled indomethacin, 75 mg/d, for 4 weeks, while the sputum expectorated was collected and weighed daily, and the values were reduced to weekly averages. A comparison between two groups, one showing positive for COX-2 mRNA expression and another negative, was made by analysis of variance and Scheffe’s test.

The expression of COX-2 mRNA was detected in four patients. During the baseline period, a mean sputum production was greater in the COX-2 messenger RNA-positive group (570 g/d) than in the COX-2 mRNA-negative group (165 g/d, p = 0.033; Fig 1). After the 4-week treatment, daily production of sputum decreased in the COX-2 mRNA-positive group by a mean ± SD of 49 ± 17% (p = 0.025), but it remained unchanged in the COX-2 mRNA-negative group. With respect to the change from baseline value, there was a significant difference between the two groups (p = 0.029). Therefore, upregulation of COX-2 in carcinoma cells and the resultant synthesis of cyclooxygenase products of arachidonic acid may be involved in the pathogenesis of bronchorrhea.

Inhalation of Heliox in Acute Severe Asthma

To the Editor:

We read with interest the comments by Miller et al. (CHEST, March 1999)1 that 3 of 9 patients with acute severe asthma did not respond to heliox. The authors reported a statistically significant difference between the baseline value, there was a significant difference between the two groups (p = 0.029). Therefore, upregulation of COX-2 in carcinoma cells and the resultant synthesis of cyclooxygenase products of arachidonic acid may be involved in the pathogenesis of bronchorrhea.

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bronchorrhea in bronchioloalveolar carcinoma, and blockade of COX-2 seems effective in the treatment of this condition.

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REFERENCES

To the Editor:
The comments by Tamaoki and coworkers on our article (CHEST; May 1999) 1 show the importance of the expression of COX-2 messenger RNA in carcinoma cells. The results are very useful in establishing treatment with inhaled indomethacin for bronchorrhea in patients with bronchioloalveolar carcinoma. Tamaoki and colleagues demonstrated the theoretical reason why there are two groups of bronchioloalveolar carcinoma patients: one group that is responsive to inhaled indomethacin and the other group that is not responsive.

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REFERENCE

A Role for Anaerobic Bacteria in Patients With Ventilatory Acquired Pneumonia
Yes or No?

To the Editor:
We read with great interest the article of Marik and Careau (CHEST; January 1999). 1 Despite specific care (rapid transport, adequate transport medium, and inoculation onto specific media...