sudden cough and immediately after described intense left pleuritic pain and dyspnea. The procedure was interrupted and a chest x-ray examination confirmed left pneumothorax of two-thirds of the hemithorax. Thoracic drainage tube was placed. Seven days later the lung was reexpanded.

Pneumothorax is an occasional complication of transbronchial biopsy but has not been described during BAL. We think this case shows that patients with obstructive lung disease can suffer pneumothorax if they present sudden cough when the tip of the bronchoscope is wedged. High intravascular tension during cough with no flow could cause bleb rupture and pneumothorax.

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Syncope Caused by Methacholine in a Patient with Exercise-Induced Anaphylaxis

To the Editor:

In their editorial, Pratter and Irwin discuss the usefulness and safety of pharmacologic bronchoprovocation challenges (Chest 1988; 93:898-900). I have seen a patient with syncope who reacted to methacholine PBPC.1

The patient was a 34-year-old miller who suffered exercise-induced anaphylaxis (EIA) with cholinergic urticaria, which were also triggered by sauna bath. He suffered chest tightness, wheezing and cough from flour dust and had positive skin test reactions to some allergens. Spirometry values were normal. There was no eosinophilia.

A methacholine challenge was performed as follows. The patient successively took five breaths of 0.025 and 0.25 percent, 20 breaths of 0.25 percent and five breaths of 2.5 percent methacholine solution, which was delivered by a De Vilbiss nebulizer at an oxygen flow of 5 L/min. He lost conscious after five inhalations of the initial methacholine concentration. Before syncope he felt weak and was sweaty. He woke up 3 min after intravenous administration of methylprednisolone (300 mg), after being unconscious for 8 min. Placebo methacholine challenges with saline solution and aqua destillata caused dizziness and slight vertigo.

Two months later methacholine and exercise challenge tests were performed under premedication with either 40 µg ipratropium bromide given 15 min before the tests, or 20 mg disodium cromoglycate (DSCG) given 30 min before the tests, which were on consecutive days. The exercise tests were performed on an ergometer, increasing the work load by 50 W every fourth minute until maximal pulse rate (190/min) and profound sweating were achieved at 150 W. This effort would anamnestically have caused EIA. Both medications almost prevented the previous reactions. During methacholine challenge under DSCG protection the patient felt vertigo, visual disturbance, fatigue and sweating from the last concentration of methacholine (2.5 percent). A similar 5-h delayed reaction occurred after the exercise test under ipratropium bromide protection. Methacholine challenge after ipratropium bromide and exercise challenge after DSCG protection caused no symptoms. An intradermal skin test with 0.01 mg methacholine was weakly positive.

Since 1983, the patient has successfully used either ipratropium bromide or DSCG in preventing EIA. This, and the observations by Shefler and coworkers2 that marked morphologic alterations of cutaneous mast cells occur and serum histamin levels rise in patients with EIA, indicate that mast cell degranulation is involved in the pathogenesis of EIA. According to Errington and coworkers,3 exercise can alter the threshold for mast cell mediator release in a subset of EIA patients. In this case, serum histamin concentrations did not correlate with symptoms during challenge.

The patient's reaction to methacholine, the cholinergic urticaria, also through sauna bath-induced symptoms and the inhibitory effect of ipratropium bromide indicate cholinergic hyperreactivity as another possible cause of the symptoms.

In cases of EIA it is advisable to be careful with methacholine PBPC. Ipratropium bromide and/or DSCG could be worth trying in such cases.

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To the Editor:

Dr. van Assendelft's report of a patient who developed syncope during methacholine bronchoprovocation challenge (BPC) is of great interest. Although, BPC is considered safe,1 a history of cholinergic hypersensitivity is an absolute contraindication to its performance.2 It is the policy in our laboratory that patients be questioned about any history of cholinergic hypersensitivity (eg, cholinergic urticaria); if it is present, the challenge is not done. Based on the fact that the patient described by Dr. van Assendelft had known cholinergic urtica, methacholine bronchoprovocation challenge should not have been performed. The importance of this policy is reinforced by his experience.

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