local vasodilator and reduces platelet aggregation in vitro; it is believed to mediate dipyridamole's in vitro antiplatelet and vasodilator effects.

It is unclear how methylxanthines cause bronchodilation, although all act to block adenosine receptors. Aminophylline has been shown to reduce cerebral blood flow, probably by antagonizing the vasodilator effects of adenosine.

I am concerned that, when dipyridamole is used as an antithrombotic agent, simultaneous use of methylxanthines (either therapeutically or in the diet) will inhibit the desired effects. Clinically, IV aminophylline is used as the antidote for the coronary vasodilatory effects of IV dipyridamole in dipyridamole-Thallium cardiac studies. Caffeine antagonizes adenosine effects in humans. Theophylline will block hemodynamic effects of dipyridamole related to elevated plasma adenosine levels.

It has recently been questioned in several multicenter studies as to whether the combination of aspirin and dipyridamole has more effectiveness as an antithrombotic agent than aspirin alone. These studies did not look at use of medical or dietary methylxanthines. It would be of interest to study the antithrombotic effects of dipyridamole in patients who are not receiving methylxanthines. For now, it would be prudent to avoid the use of methylxanthines in patients taking dipyridamole.

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Situs Inversus Totalis and Lung Cancer

To the Editor:

We encountered a patient with visceral inversion and lung cancer and performed surgical resection of the cancer. Our literature search found no reports of operation on such a case.

The patient was a 68-year-old man. He visited our hospital on August 23, 1988 with major complaints of chest pain and hemoptysis. Chest x-ray examination revealed dextrocardia, a tumor (8 x 7 cm), and a clear margin in the left middle lung field (Fig 1). As a result of TV-brushing, squamous cell carcinoma was proven by cytodiagnostics from a bronchus, which was apparently a left middle lobe bronchus. On the other hand, gasto-echographic examination revealed abdominal visceral inversion. The spleen was normal in size and on the right side.

Thoracotomy was performed by a left posterolateral incision. The sixth and seventh ribs, in which infiltration was directly observed, were resected jointly. The left lung showed good lobulation of the upper and middle lobes, whereas the middle and lower lobes were only slightly demarcated and had an external appearance as if the middle lobe was part of the lower lobe. Most of the tumor was present in the middle lobe, but part of the tumor extended to the medial basal (S7) and anterior basal (S8) segments across the vague boundary of the two lobes. Therefore, the pulmonary parenchyma of S7 and S8 was resected at a healthy region using a GIA autosuture apparatus. When pulmonary vessels were stripped, the middle lobe artery was found to arise as a single vessel from the interlobar portion of the left pulmonary artery and was ligated and divided. Segmental arteries leading to S7 and S8 were three in

FIGURE 1. Chest x-ray film shows dextrocardia and an abnormal mass shadow in the left lung field.

FIGURE 2. Surgical schema illustrates a scene after completion of resection of the left middle lobe and S7 and S8 segments.
number, and each artery arose independently from the common basal artery. Each of those three arteries were ligated and divided. On the other hand, the middle lobe vein was found to arise from the superior pulmonary vein, contrary to the status of lobulation (ie, the middle lobe had an appearance as if it was part of the lower lobe). The veins leading to S₁ and S₃ were found to have been cut, together with the pulmonary parenchyma, at the time of resection with the autotomography apparatus. A branch of the superior segmental vein (V₆) communicated with the posterior segment of the upper lobe. Middle lobe bronchus was found to originate from the anterior surface of the bronchus intermedius. The medial basal bronchus (B') was observed to arise at almost a right angle from the anteromedial surface of the basal stem bronchus. Two rami of the anterior basal bronchus (B') were seen to arise separately at almost right angles from the anterolateral aspect of the basal trunk (Fig 2). At the time of mediastinal lymph node dissection, it was found that the superior caval vein, right atrium, azygos vein and bronchial artery were mirror images of the normal disposition.

Situs inversus totalis is a rare deformity and its incidence in the population is between 1:4,000² and 1:12,000.³ Neither Kartagener's syndrome nor other cardiac anomalies were found in the patient. On the other hand, the corrected incidence of lung cancer in Osaka in 1985 was 23.6:100,000.⁴ Surgical treatment is possible in only about 30 percent of these patients. Accordingly, it can be said that there are very few cases who have situs inversus totalis plus lung cancer and undergo operation for the cancer.

Local anatomy revealed that the arrangement of organs and various structures was nearly a mirror image of the normal arrangement. However, some variations were seen in the courses of blood vessels and bronchi. Therefore, when such a patient must be operated on, it is important to carefully observe, identify and handle the vascular and bronchial branches which lead to the planned region of resection.

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Utility of CPAP in Gastroesophageal Reflux

To the Editor:

Since 1981, when Sullivan et al suggested continuous positive pressure in the airway by means of a nasal mask (nCPAP) as a therapeutic alternative for the sleep apnea syndrome (SAS), many patients have benefited from this technique. At the present time, there can be no doubt as to the treatment’s efficiency for obstructive apneas. The mechanism of action of nCPAP is based on the maintenance of positive pressure in the upper airways during sleep, thus preventing them from collapsing and avoiding apneic episodes, with resultant clinical improvement of the patient. At our SAS research unit we have recently noticed a new application of the nCPAP, which we shall discuss briefly below.

We have observed five patients in whom SAS was associated with severe gastroesophageal reflux (GER) that remained symptomatic in spite of the usual pharmacologic treatment (antacids and anti-H₂). Control of respiratory symptoms associated with SAS was a serious problem owing to the undesirable effects exerted on the upper digestive tract by bronchodilator drugs. In these patients, the use of nCPAP made it possible to control the symptoms of reflux esophagitis, even allowing us to withdraw the anti-reflux medication completely in one case, in addition to eliminating the syndrome’s characteristic apneas.

For a long time now, GER has been associated with pulmonary pathologies including pulmonary fibrosis, asthma, bronchitis, aspiration, etc., and the interferences existing between symptomatic treatment of both etiologic entities (anti-H₂ and theophylline, antacids and Gram-negative colonization of the upper airways, theophylline and gastric toxicology). Accordingly, it could be thought fitting to have a common therapy available to benefit patients suffering from GER and pulmonary pathology.

In the case of patients suffering from SAS, the application of nCPAP not only prevents collapse (with the resultant disappearance of apneas), but this increase in pressure also strengthens the organism’s natural anti-reflux mechanisms because of retrograde transmission through the esophagus. As a result, the barrier blocking passage of gastric acid to the esophagus is consolidated and an ailment is brought under control.

As we have observed in our patients, nCPAP may constitute an efficient remedy as the only therapy for the treatment of patients suffering from SAS and GER. Further research should confirm nCPAP as a suitable therapeutic alternative in the treatment of patients suffering from GER but not from SAS.

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Hypodermic Needle Aspiration in a Freebase Cocaine Abuser

To the Editor:

Individuals who abuse drugs may develop numerous pulmonary complications including respiratory depression, aspiration pneumonia and pulmonary edema. Abusers of cocaine, a topical anesthetic, may also develop complications related to anesthetizing...