the rarity and the course variability of these diseases, multicenter, comparative trials are needed in order to verify these case reports.

**References**


**Mice Are Resistant to the Induction of a Pleurodesis**

To the Editor:

Our group has shown that transforming growth factor (TGF)-β₂ produces excellent pleurodesis when administered intrapleurally in rabbits and sheep. It induces pleurodesis faster than talc, and the pleural fluid that is produced after its intrapleural administration is less inflammatory than that produced after the administration of talc or doxycycline. Hence, pleurodesis caused by TGF-β₂ may be effective but less painful and safer when compared to the pleurodesis caused by sclerosing agents currently used in clinical practice.

However, the mechanisms of pleurodesis induced by TGF-β₂ as well as by conventional agents are largely unknown. In order to expand our capabilities of examining the molecular mechanisms of pleurodesis induced by TGF-β₂, or other agents, we attempted to create a mouse model of pleurodesis. A mouse model of pleurodesis would be superior to the rabbit or sheep models for the following reasons: (1) the availability of knockout mice strains would allow one to investigate the mechanism of pleurodesis in more depth, (2) there are many more commercial reagents specific for mice proteins than for sheep or rabbit proteins, and (3) mice are much less expensive.

TGF-β₂ was injected intrapleurally in ICR mice at doses 0.8 to 1.360 μg/kg (Table 1). Talc, 4g/kg, and doxycycline, 20 to 100 mg/kg, were also injected. During the first experiments, we combined the “effective” agent with India ink to verify successful intrapleural injection. Since the injection rate was successful in > 95%, we performed the next experiments without ink to eliminate the possibility that the ink reduced the TGF-β₂ activity. Since epithelial growth factor (EGF) is believed to amplify the fibrosing effect of TGF-β₂, we injected some mice with the combination of the two growth factors and with EGF alone. Mice were killed at the 14th day after the injection, and the thorax was examined for pleurodesis. A scale from 1 to 6 was used to evaluate the degree of pleurodesis: 1 = no adhesions, 2 = rare adhesions with no symphysis, 3 = few scattered adhesions with no symphysis, 4 = many adhesions with no symphysis, 5 = many adhesions with symphysis involving < 5% of the thoracic cavity, 6 = many adhesions with symphysis involving 5 to 25% of the thoracic cavity, 7 = many adhesions with symphysis involving 25 to 50% of the thoracic cavity, and 8 = many adhesions with symphysis involving > 50% of the thoracic cavity.

TGF-β₂ did not induce pleurodesis, even when administered at doses 130 times higher than the dose that induced intensive pleural adhesions were observed. Furthermore, clinically significant pleurodesis was not observed in any of the mice receiving talc or doxycycline, even when they were administered in doses 10 times higher than those that induce pleurodesis in rabbits. Because different mouse strain show different susceptibility for pulmonary fibrosis and C57Bl-6 mice have been shown to be particularly susceptible to pulmonary fibrosis, we injected the TGF-β₂ in eight C57Bl-6 mice to rule out the possibility that the failure of TGF-β₂ to produce pleurodesis was due to the mouse strain we initially used (ICR mice). As it is shown in Table 1, TGF-β₂ also failed to induce significant pleurodesis in these mice.

We conclude from this series of experiments that TGF-β₂, doxycycline, and talc do not induce pleurodesis when administered intrapleurally in mice at relatively high doses. The explanation for the refractoriness of the mouse for the induction of a pleurodesis is unknown.

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**Table 1—Pleurodesis Score in Different Treatment Groups**

<table>
<thead>
<tr>
<th>Injected Agents</th>
<th>No.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tr>
<td>Ink</td>
<td></td>
<td>10</td>
<td>8</td>
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<tr>
<td>TGF-β₂ 0.8 μg/kg plus ink</td>
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<td>1</td>
<td>4</td>
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<tr>
<td>TGF-β₂ 2.5 μg/kg plus ink</td>
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<td>1</td>
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<td></td>
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<tr>
<td>TGF-β₂ 7.5 μg/kg plus ink</td>
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<td>2</td>
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<td>TGF-β₂ 10 μg/kg</td>
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<td>3</td>
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</table>

*ICR mouse unless otherwise indicated.

† C57Bl-6 mice.
To the Editor:

I read with interest the recent report of Silverman et al (May 2003) about cigarette smoking among asthmatic adults. What impressed me most was their finding that, although 50% of current smokers admitted smoking worsens their asthma symptoms, only 4% of current smokers felt that cigarette-induced cough loosened their sputum. This seems to be a universal response of cigarette smokers, in both the United States and China where cigarette smoking is rampant.

In my practice, I saw many patients with chronic cor pulmonale due to pulmonary emphysema who are invariably cigarette smokers. They continue to smoke, despite the obvious fact smoking made their cough worse. The invariable answer to my question why they continued to smoke was that cigarette-induced cough loosened their sputum. This seems to be a universal response of cigarette smokers, in both the United States and China where cigarette smoking is rampant.

In Chinese, taí xiao tan is the equivalent expression for loosening the phlegm. What I usually did for these patients in China was to ask them to perform a simple FVC test to measure the FEV1 before and after they smoked a cigarette. I then showed how the FEV1 fell instead of rising after they smoked a cigarette. Such a visual demonstration that cigarette smoking worsened instead of improving the airway obstruction usually did more good than my constant preaching of the harm of smoking. As they say in China, one picture is better than a thousand words.

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References


Cigarette Smoking, Asthma, and Emphysema

To the Editor:

We read with interest the recent article by Acebo et al (May 2003). Myxoma is the most common primary cardiac tumor, and it is intriguing that in many patients myxomas do not cause symptoms but are detected as an incidental finding during an echocardiographic examination. It is useful to identify features of the tumor that are predictors of symptoms, in order to develop a better understanding of the mechanisms leading to the development of symptoms. We have performed an analysis of the clinical, pathologic, and echocardiographic features of cardiac myxomas that were surgically removed between 1976 and 1999 at the University of Ottawa Heart Institute. There were 54 patients (mean age, 53 ± 15 years; 71% female). Of these, 34 patients had symptoms, and the common symptoms were dyspnea in 13 patients and embolism in 9 patients. Nine patients were asymptomatic. Two pathologic findings were more common in asymptomatic patients, namely the presence of calcification including bone, and the presence of glandular elements (p = 0.01 and p = 0.03, respectively). Regarding embolism, the pathologic predictors were absence of calcium (p = 0.004), absence of thrombus (p = 0.04), and polypoid shape (p = 0.04), whereas the only echo predictor was polypoid shape (p = 0.03). These observations were consistent with the findings of Acebo et al.

We agree with Acebo et al.1 that echocardiography is a reliable method in the diagnosis of cardiac myxoma. It also provides additional insight regarding the potential of embolism. In asymptomatic patients, urgent surgical intervention is indicated. We believe that prompt surgical intervention is also justified in asymptomatic patients with polypoid myxomas so as to prevent embolism.

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References


Distal Intestinal Obstruction Syndrome After Surgery in Cystic Fibrosis

To the Editor:

We greatly appreciated the review by Gilljam et al (January 2003) on GI complications after lung transplantation in patients...