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To the Editor:
Dr Aelony registers surprise that our recent editorial on chemical
pleurodesis1 did not echo his enthusiasm for thoracoscopic talc
poudrage in the management of malignant pleural effusions. Critical
analysis of his arguments may clarify why chemical pleurodesis
through an intercostal chest tube remains the preferred method
of pleurodesis in this country.

Dr Aelony's literature citations do not convincingly support his
contention that talc poudrage controls malignant pleural effusions
more effectively than tetracycline (TCN) pleurodesis. Fentiman and
co-workers2 performed the only English-language prospective,
randomized study comparing talc poudrage with TCN in patients
with malignant pleural effusions, and indeed showed efficiencies of
91 percent for talc and 48 percent for TCN. In concluding that talc
was superior by a "wide margin," however, Dr Aelony fails to
mention the small number of evaluable patients (12 treated with
talc, 21 with TCN) and the instillation of what is now recognized as
a suboptimal TCN dose (500 mg) in that study.

His citation of the article by Frank and co-workers3 as supporting
a 90 percent efficacy for talc poudrage is confusing since this
German-language report actually employed TCN instilled through
a thoracoscope. His other citations of 90 percent talc efficacy4, 5 are
uncontrolled investigations, provide scant clinical information, and
represent the thoracosopic studies with the "best results." As
pointed out by Boutin (a leading European thoracoscopy proponent)
and co-workers in a recent review,8 success rates reported for
thorascopic talc poudrage vary "according to the series ranging
between 60 to 93%.

Dr Aelony dismisses studies that document successful TCN
pleurodesis5 as "early reports." It is unclear why studies as recent as
1978 should not provide valuable data. Dr Aelony further omits
the more recent experiences of 90 percent success with TCN,6 which
are comparable favorably with the 82 percent efficacy of talc
poudrage in his recently reported patients with malignant pleural
effusions who survived only a median of five months.9

Dr Aelony's contention that TCN pleurodesis promotes only
transient benefits also requires closer inspection. The cited study
by Sherman and co-workers10 indeed reports a median of 88
symptom-free days after TCN pleurodesis. These investigators
defined the "symptom-free" period, however, as the time after
pleurodesis until the occurrence of either death, recurrence of
symptomatic pleural effusions, or the end of the study. In actual
fact, TCN pleurodesis was considered successful in 102 of 108
procedures (94 percent), and pleural fluid symptomatically recurred
in only six of the 97 patients. In the cited study by Dunkel,11 in
which a high rate of recurrence of pleural effusions was noted,
a potpourri of TCN doses (0.5 to 3.0 g) was used, with most patients
receiving a suboptimal 1.0-g dose. Similarly, in the cited report by
Gravely and co-workers,8 in which a high failure rate with TCN
was demonstrated, only 500 g of intrapleural TCN was used in 20
of the 32 patients.

Does TCN cause intolerable pain? The reference cited by Dr
Aelony as confirming his viewpoint10 in actual fact reports the
effectiveness of 250 mg of intrapleural lidocaine in controlling TCN-
induced pain. Our experience and that of others2, 12 indicates that
severe pain is usually controllable and occurs less commonly with
malignant pleural effusions compared with other indications for
pleurodesis.14 Boutin et al conclude in a review on pleurodesis
that talc thoracoscopy and TCN pleurodesis are equally well tolerated
when patients in both treatment groups are managed with adequate
analgesia.

Dr Aelony states that TCN pleurodesis requires many more days
of chest-tube drainage compared with talc poudrage. No prospective
cumulative data support this assertion. Dr Aelony references his
own series7 of uncontrolled thoracoscopic talc poudrage in
patients with benign and malignant pleural effusions to support his
contention. In the discussion of this paper, he compares his 2.7 days
of chest-tube drainage after talc instillation with the seven days of
drainage in two arbitrarily selected TCN patient series.13 Careful
reading of one of these references, however, indicates that chest
tubes were removed three to five days, rather than seven days, after
insertion (two to five days after TCN instillation). Furthermore, he
does not provide the duration of chest-tube drainage in his subgroup
of talc patients with malignant pleural effusions.9 Our experience
and that of others12 necessitates post-TCN-instillation chest drainage
for only two to three days in most patients.

Dr Aelony bristled at the references to reported complications of
intrapleural talc.12, 14 Additional reports of respiratory failure caused
by intrapleural talc exist, however.15, 16 Perhaps the number of
patients cited in the literature is as yet insufficient to fully profile
the toxicity of talc poudrage. Furthermore, it may be difficult to
detect more subtle adverse consequences of talc in moribund patients with underlying malignant conditions in the reported retrospective studies. I was surprised to read in Dr. Aelony’s letter that either of my past associates, Drs. Antony and Sahn, had become talc poudrage “enthusiasts.” Recent communications with them reassure me that they still favor TCN (tetracycline or doxycycline) pleurodesis and do not personally employ or recommend the primary use of thoracoscopy with talc poudrage (oral communication, February 20, 1992).

I submit that reasons other than a “shortage of skilled thoracoscopists in the English-speaking world” explain why thoracoscopic talc poudrage has not caught on in this country as the primary pleurodesis procedure. Thoracoscopic pleurodesis is overly invasive, expensive, and cumbersome compared with chemical pleurodesis, which can be performed through small-bore (7F to 24F) percutaneous chest catheters. Furthermore, thoracoscopy provides poorly documented advantages in outcome compared with meticulously correct performance of TCN pleurodesis with 20 mg/kg or 1.5 g of the drug.

Pulmonologists are rightly enthusiastic about the future of thoracoscopy in the hands of physicians performing such procedures as bullectomies, pulmonary resections, lung biopsies, drainage of loculated empyemas, and pericardial windows. Thoracoscopic talc poudrage may well have a role in some clinical situations. We should expect, however, that unbridled enthusiasm for talc poudrage as the pleurodesis procedure of choice would be matched with careful scholarship and thoughtful analysis of its benefits compared with simpler and less costly techniques that have been similarly effective.

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REFERENCES


To the Editor:

Dr. Aelony reports the case of a patient who had received mediastinal irradiation for Hodgkin’s disease in 1979 and six years later developed relapse of the lymphomatous disease (preauricular and mediastinal lymph node involvement) and bilateral pleural effusions. The lymphoma responded to chemotherapy, but the pleural effusions recurred over several weeks to months. I think that the pleural effusions in this patient could have been secondary to mediastinal nodal involvement (Hodgkin’s disease), and that pleural fluid removal was slowly because of some degree of mediastinal fibrosis induced by radiation therapy.

In our patient, the presence of other nonmalignant complications of radiotherapy (pericardial effusion, exsanguine dyspnea with restrictive impairment of lung function due to radiation pneumonitis, and subclinical hypothyroidism demonstrated by increased serum levels of thyroid-stimulating hormone) reinforced the role of radiation therapy in the development of pleural effusion. On the other hand, few data are available concerning the rate of removal of pleural effusion related to Hodgkin's disease after cure of nodal disease. Effusions might persist with the amount of fluid decreasing slightly.

On follow-up, our patient had recurrent small pleural effusions that responded to anti-inflammatory drugs. At present there is no evidence of lymphomatous recurrence. Although the presence of pleural effusion in lymphoma is a poor prognostic sign, prolonged survival has been observed in patients responsive to chemotherapy. If the patient has mediastinal adenopathy without parenchymal or pleural nodules, there is a good likelihood of control of the effusion following either mediastinal radiation or chemotherapy. If these measures are not effective, pleurodesis should be attempted. Moreover, one must take into account the undesirable degree of fibrosis and granulomatous reaction that may result from pleurodesis and that may interfere with proper ventilatory motion of the lung. Talc poudrage may cause mild restrictive impairment of lung function, thus increasing the severity of dyspnea in patients with lung fibrosis induced by radiation therapy.

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