a higher frequency of successful pleurodesis and a more prolonged survival. Although the group of our patients is smaller and it is difficult to compare different series of patients, we think that our results show that *C. parvum* is effective in both normal pH pleural effusion and in low pH pleural effusion, which is different from tetracycline and talc. Longer survival observed in our patients, as emphasized by other authors suggests that *C. parvum* may be acting not only as a sclerosant, but also as an immunomodulatory agent. Therefore, we think that *C. parvum* deserves wider use.

Valeriano Foresti, MD, FCCP, and Antonio Villa, MD, III Medical Department, Fatebenefratelli Hospital, Milan, Italy

REFERENCES


To the Editor:

The letter from Foresti and Villa regarding *Corynebacterium parvum* pleurodesis is interesting in several respects, as they report their experience with this agent in a series of 26 patients with malignant pleural effusions, comparing both survival and outcome of pleurodesis. Though they do not specify at what time of the follow-up they evaluated the results of the procedure, it could be assumed that they rated the pleurodesis as successful only when the pleural effusion did not recur at any time during the entire follow-up of the patients. We think that this point must be stressed, since outcome of pleurodesis has been evaluated only 1 month after the procedure in many series, and we believe that this would be insufficient.

In their letter, Foresti and Villa report a successful *C parvum* pleurodesis in 20 out of 22 patients who could be evaluated (91%), which seems to be a high success rate in comparison with our 72% rate of complete success with talc pleurodesis. They emphasize that outcome of *C parvum* pleurodesis was equally good both in cases with high and low pleural fluid pH. However, there are some points that should be discussed in their series.

First, when we closely examine their results, they obtained only a 60% of complete success after the first application of *C parvum* into the pleural cavity, and they reached their 91% of success only after three applications in some patients. Our series referred only to results of pleurodesis after a single application of talc, so we think that our series could be comparable only when the first application of the sclerosing agent is considered. Thus, we had a 72% rate of complete success with a single application of talc (see Table 1 in *Chest* 1993;104:1482-85), while the comparable results in the series of Foresti and Villa would be 60%.

Second, regarding outcome of pleurodesis as related to pleural pH, the rate of response after the first application of *C parvum* pleurodesis in patients with pH lower than 7.20 is not reported in the series of Foresti and Villa. Therefore, we could not establish any comparison in this respect with our own series.

Regarding survival, these authors report an average of 6.1 ± 4 months in patients with low pH (supposedly below 7.20, which is the cut-off that we used in our series), vs 8 ± 8.9 months in those patients with higher values of pleural pH. They did not find any significant differences and most cases, to our view, that survival is the same in patients with low pH malignant effusions as in those with normal pH. Their study could have some biases in this respect. First, they presumably used a statistical test, not specified in their report, to compare means between groups, or perhaps medians, if they used a nonparametric test, which would be required in small groups. Survival data, however, is not suitable for this type of analysis, and the Kaplan-Meier method for comparison between groups should be used. On the other hand, they do not specify whether they are expressing their data with SD or SEM, so we can only figure out about the scatter in their groups. Presumably, the specification of the median values would be of more help to understand differences, as this is the key parameter used by nonparametric tests to compare small groups. Second, when pleural fluid pH and glucose are considered together, these authors found an average of 4.3 months vs. 6.4 in the low and high-values groups, respectively, which would presumably make some difference if their groups were larger. Though levels of glucose are closely related to pH in malignant effusions, the association of both parameters below or above the chosen cut-off reinforces their role in predicting both survival and outcome of pleurodesis in our series. The apparently wider difference in means when both variables are considered in the series of Foresti and Villa makes us presume that they will find significant differences in the future, when their series grows enough.

Regarding carcinoembryonic antigen (CEA), pleural tumor burden, and survival, we would like to make some comments. We studied CEA in pleural fluid of 100 patients with malignant pleural effusions and found neither significant relationship of CEA with tumor burden in the pleural space as observed by thoroscopic examination nor with survival (unpublished data, F. Rodriguez-Panadero, MD, and MA. Gonzalez-Caprio, MD, 1990). Thus, we think that this marker is not useful to make predictions in malignant pleural effusions. Moreover, the inclusion of three patients with mesothelioma, which usually shows no significant expression of CEA, in the series of Valeriano and Antonio would introduce an important bias when comparing survival between groups.

Although Foresti and Villa suggest in their letter that it is difficult to compare our series, they make the conclusion that the survival and the success of pleurodesis in patients treated intra-pleurally with *C parvum* pleurodesis are the same, regardless of levels of pH and that their patients have a longer survival after instillation of *C parvum* pleurodesis. In support of their (overstated to our view) conclusion, they invoke an hypothetic immunomodulatory role of *C parvum* pleurodesis in the pleural space, but there was a study published by Rossi and colleagues in which there was no enhancement of local cellular immunity found, and further support is not provided in the letter by Foresti and Villa. We think that survival in patients with malignant pleural effusions not only is mainly related to the stage of the tumor, both in the pleural cavity and in other organs, but also to the aggressiveness of the tumor cells themselves, since we found a long-term survival rate (see Table 2, *Chest* 1983;104:1482-85) in patients with metastatic breast carcinoma despite pleural tumor burden being larger in other groups. In our view, pleural fluid glucose and pH are very good markers of the pleural tumor staging.
and remain as very useful predictors of outcome of pleurodesis. They also are helpful in predicting survival to some extent, providing us with tools to select the adequate management of our patients.

F. Rodriguez-Panadero, MD, and A. Sánchez-Armengol, MD, Pulmonary Department, Hospital Universitario Virgen del ROCIO, Sevilla, Spain

Reprint requests: Dr. F. Rodriguez-Panadero, El Mirador, P.13, 1B, 41940 Tomares (Sevilla) Spain

REFERENCE


High-Resolution Computed Tomography Scan in Pneumocystis carinii Pneumonia

To the Editor:

In immunocompromised patients Pneumocystis carinii pneumonia (PCP) may present with nonspecific symptoms and the chest x-ray films may be normal or show equivocal abnormalities. Additional investigations such as pulmonary function tests and gallium scintigraphy are sensitive, but they have low specificity for PCP. A definitive diagnosis of PCP can only be made by demonstration of the organism in sputum, bronchoalveolar lavage (BAL) fluid, or a lung biopsy specimen. In case of doubt about the presence of active pulmonary disease or to indicate the optimal site for BAL or lung biopsy, computed tomography of the chest may be performed. High-resolution computed tomography (HRCT) has shown abnormalities in all HIV-positive patients with PCP, but false-negative HRCT scans have been also reported.

The specificity and sensitivity of HRCT for PCP in non-HIV immunocompromised patients are unknown. We report a 34-year-old HIV-negative patient who for 3 months before admission received immunosuppressive therapy consisting of prednisone 40 mg and cyclophosphamide 150 mg because of rapidly progressive glomerulonephritis. Two weeks before admission, he developed fever, nonproductive cough, and exertional dyspnea. Arterial partial oxygen pressure and chest x-ray film were unremarkable, but the lung carbon monoxide diffusing capacity was diminished (61% of normal). A gallium-67 scan showed diffusely increased uptake in both lungs.

The normal PaO2 and chest x-ray film raised doubt about whether there was active (infective) pulmonary disease, and prior to bronchoscopy and BAL, a chest HRCT was performed, which appeared to be normal. The BAL fluid revealed Pneumocystis carinii, and co-trimoxazole was started. Immunosuppressive therapy was tapered to prednisone 10 mg once daily. The patient’s clinical symptoms gradually diminished and fever disappeared after taking co-trimoxazole for 4 days.

This case shows that HRCT scans of the chest may be false-negative in non-HIV immunocompromised patients with PCP. If there is clinical suspicion of PCP in an immunocompromised patient and radiographic and radionuclide studies show equivocal results, investigation of sputum, BAL fluid, or lung biopsy for PCP must be performed.

REFERENCES


Mycobacterium avium Complex Lung Disease in Women

To the Editor:

Dr. Wallace’s penetrating analysis of the broadening spectrum of pulmonary disease caused by Mycobacterium avium complex (MAC), which appeared in the January 1994 issue of Chest, raised three questions on which we might be able to shed some light.

First, what accounts for the demographic shift of pulmonary MAC in published reports away from a predominance of elderly white men with preexistent pulmonary disease (PEPD)—most often chronic obstructive pulmonary disease—toward elderly white women often free of PEPD?

Most reports of pulmonary MAC in HIV-negative individuals have originated in tertiary care settings where individuals with advanced and otherwise treatment-refractory disease are likely to be categorized (“tertiary care screen”). In eight reports of this type, summarized in our study, Table 2, men predominated (range, 71 to 100; median, 81%), and the percent of persons with moderate to far-advanced disease (MFAD) was high (range, 86 to 100; median, 97%). In a population-based study of 29 patients, the figures were quite different: 38% were men, and 72% had MFAD. Furthermore, in this population, MFAD was far more likely with men than women (75 vs 17%); the gender breakdown for PEPD was identical, raising the question of whether gender might be a confounding variable for PEPD with which MFAD cases of MAC are associated. We concluded that the male predominance reported from institutional settings could be accounted for by a skewed pattern of referral, in which persons with MFAD were more likely to be selected; and the aggregation of MFAD cases among men might be attributed to their diminished ability to limit progression of established pulmonary MAC because of the structural abnormalities associated with PEPD.

Second, where does the inflammatory-multiple lobe syndrome, limited to women, fit into the pulmonary MAC spectrum?

In 1992, we reported six individuals with pulmonary MAC in