create comparison difficulties between different studies. Had Pien et al. used our lower drug concentrations to define resistance, which are essentially the same concentrations used in the USPHS study, a higher incidence of drug resistance likely would have surfaced, thus supporting our view.

Dr. Snider and Farer also refer to 11.7 percent incidence of primary drug resistance in the Canadian Oriental immigrant study of Eidus et al. However, in those Orientals who received treatment in Asia prior to emigration to Canada, the same investigators noted an incidence of 43 percent secondary drug resistance. Such a high incidence of drug resistance is common in any group of retreatment patients, but the problem in Asia is compounded by the fact the patient is often unaware he has been treated for tuberculosis. For example, in some Asian countries, isoniazid (INH) has been placed in cough syrups.

I believe it important not to de-emphasize the problem of drug resistance in the Oriental immigrant as this may lead to the prescribing of an antituberculosis regimen which will likely fail in an unacceptably proportion of the patients. Rather, as urged by a Canadian authority, these individuals should be considered potentially resistant to INH, streptomycin, and para-aminosalicylic acid and other drug combinations used until sensitivity studies are available. It is well-established that using a drug such as rifampin with INH in a patient with INH-resistant organisms may result in the organisms becoming resistant to the second drug as well. Even if one uses the selective data of Snider and Farer and assumes that the resistant organisms occur in only 15 to 20 percent of patients, possible therapeutic failure and the loss of valuable drugs such as rifampin and ethambutol in this percentage of patients would be unacceptable to most physicians.

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More About NaOH in the Management of Malignant Pleural Effusions

To the Editor:

Following our letter to the Editor in 1976 outlining our preliminary three-year experience on the use of 0.5 percent NaOH in the management of pleural effusions secondary to metastatic breast cancer, we submitted to Chest a brief paper providing more data and defining our position concerning the use of intrapleural irritant substances.

In that unpublished manuscript, we selected cases with pleural effusions and "trapped lungs" (of thyroid and bronchogenic origin) treated by limited thoracotomy and decortication, followed by intra- and postoperative NaOH instillation showing survivals of 20 and 25 months respectively without recurrence of effusion.

During 1978 we published our opinions in regard to the use of pleural irritants and the prerequisites for the complementary-therapeutic approach to be successful. Such observations completely coincide with those of Sahn et al. in his well-designed investigation recently published in Chest.

In that article we pointed out that the management of malignant pleural effusions must necessarily include pleural drainage by the simplest, safest and least expensive procedure; pleurotomy and active aspiration of fluid accomplish these goals perfectly in almost all cases. Besides, it ensures the complete evacuation of pleural fluid, prevents dilution of the irritant and establishes appropriate timing via the NaOH instillation.

We added: "We are convinced that for NaOH or any other pleural irritant to be effective, it is mandatory to achieve as a previous condition complete pulmonary expansion to allow both pleural surfaces to come into contact. Furthermore, it appears of utmost importance to use substances—acid or alkaline—with the most potent irritant capabilities, and in this sense, NaOH satisfies this requirement."

Sahn's paper seems to give us reason since his investigation shows that 0.5 percent NaOH produces the highest variation in pH within the pleural cavity and appears, together with tetracyclines, as the most effective (substance) in producing pleural symphysis.

We sustain the hypothesis that sodium hydroxide—or any other violent pleural irritant—modifies the pleural fluid turnover by diminishing its production, in spite of the concomitant irritative action upon visceral pleura and lymphatic drainage pathways. The reduction in the filtration coefficient of the parietal pleura as a result of the destruction of the mesothelial layer and the transient obliteration of the pleural capillaries, are important enough to give time to pleural symphysis.

Our experience with 21 consecutive cases of malignant effusions including cases of bilateral carcinomatous pleural effusions and also some selected cases of bronchogenic carcinoma associated with pleural fluid collection, to which we have devoted our attention as part of a line of investigation with complementary immunochemothotherapy in advanced carcinomas, only confirm the foregoing observations.

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