Fatal Complication in Percutaneous Needle Biopsy of the Lung

To the Editor:

The danger of percutaneous needle biopsy of the lung has been emphasized by the recent report of two additional fatal cases.\(^1\) The authors review the published fatalities in the English literature, pointing out that they have occurred, except in one case,\(^2\) after the use of cutting needles. We have published our own results\(^3\) in 18 patients submitted to biopsy with the high speed trephine presented by Steel and Winstanley.\(^4\) One of these patients died in a few minutes after a sudden endobronchial hemorrhage. The patient had been treated with tracheotomy and a positive pressure respirator for two months for acute polyradiculoneuritis. The biopsy was proposed in order to diagnose the cause of several ill-defined lung shadows which had been associated with development of pneumothorax.

The patient was breathing spontaneously, but still tracheotomized, when the procedure was carried out. About 500 ml of blood was aspirated from the trachea and positive pressure ventilation was immediately instituted. The patient became comatose and developed circulatory collapse followed quickly by cardiac arrest, from which she could not be revived. At autopsy, many areas of chronic pneumonitis were observed. Adjacent to one of them, a bronchiecstatic area was found with a tear on the bronchial wall and hypertrophied bronchial arteries in the immediate vicinity. The tear was attributed to the biopsy since a bronchial fragment had been found in the specimen and a hemorrhagic linear tracing reached it.

All these facts point to the possibility of perforation of a bronchial artery as the cause of hemorrhage. Since both lungs were found to be full of blood, we believe that acute respiratory failure was the cause of death. Since then a Carlens differential bronchial catheter is always available during the biopsy procedure.

Since our study was published, 19 more patients have been submitted to biopsy without serious complications.

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References


Technology and the Therapist

A Therapist Speaks to Physicians

To the Editor:

The debate over the use of intermittent positive-pressure breathing (IPPB) therapy is spreading throughout medical literature and rightly so. At our institution alone, over 90,000 IPPB treatments will be given this year, while the physiologic rationale for this therapy is not entirely clear.

However, I am afraid that the pertinent questions, those relating to the therapeutic value of IPPB for various pathologic processes, are being obscured by many of the people who could be resolving the issues.

For example, an opinion frequently expressed is that IPPB is used because it is “big business” and “profitable.”\(^1\) I must ask the question, profitable to whom? Do hospital administrators or respiratory therapists order the treatments? No, they don’t; physicians order them, and the physicians who request IPPB do not order it for financial reasons. Of course, there is a lot of money involved, just as there is in the use of whole blood, for example, but there is no nationwide conspiracy forcing people to submit to procedures for the sake of producing revenue.

The second criticism of IPPB therapy that is often advanced centers around the idea that respiratory therapists and technicians are incompetent and rather dull-minded people who are concerned only with performing a mechanical function and not with quality patient care.

One recent study produced pages of statistical data about controlling the quality of IPPB.\(^2\) It was a splendid example of begging the question that needs to be answered. The author told us that, without too much “threatening,” technicians could be taught to routinely measure parameters that have never been shown to be related to the therapeutic value of IPPB.

With the specter of further government involvement in medicine, it is popular, albeit irresponsible,
To create studies filled with catchwords and graphs that do not address the real problems.

Again, we need to know if IPPB is good for anything. If so, why and for what types of patients? Those who are searching for someone to blame rather than looking for physiologic facts are engaging in a counterproductive pursuit, and I believe do so out of fear.

I think that there are two specific fears that produce irrational approaches to the problem.

First, respiratory therapists are afraid that their value as health professionals is identical to the value of IPPB as therapy. This, of course, is untrue because IPPB therapy, although frequently used, has ceased to be the foundation of modern respiratory care.

Secondly, many physicians are worried because they are ordering IPPB frequently; and if it is shown to be largely useless, the question of why so many were ordered arises. The answer is disarmingly simple. Most patients who have received IPPB over the years have told their physicians that it has helped them to clear secretions or to breathe more easily. Certainly, physicians cannot be blamed for responding to this positive clinical input, because precise physiologic facts have not yet been made available. The IPPB treatments have been ordered in a genuine attempt to use the technologic tools available.

I sincerely hope that the fears, the emotionalism, and the irrelevant studies will not make it difficult for us to hear those who are attempting to determine the value of this popular mode of therapy. Hard facts can be obtained, as McConnell, Maloney, and Buckberg have shown us in their recent study; and facts are what we need.

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REFERENCES


To the Editor:

Mr. McLaughlin and others of his profession should look to the M.D. Directors for perspective and direction and, if these are lacking, should certainly point out the deficiency. The debunking mode of approach to intermittent positive-pressure breathing (IPPB) therapy is currently much in vogue, so perhaps your letter will stimulate some more serious and positive approach.

Unless uniform quality of delivery of therapy is assured, measurement of therapeutic effect will be pointless. There is a widely quoted article in the medical literature in which IPPB was found to be of little or no value. The "joker" is that the maximum pressure used in this otherwise elegant study was 10 cm H₂O. This, in my opinion, in the absence of demonstrated evidence of delivered volume, pretty well negates the conclusion. Yet such technically shaky studies provide ample ammunition for those assaulting your position.

Most physicians are not well enough acquainted with the basic technicalities of the process to decide whether a method used is valid. This is an area where M.D. and therapist should be working closely as a team, and a study without both elements should not be considered complete. Yet until now, respiratory therapists have been most notable by their absence. So the only way to answer your question to our mutual satisfaction is to set up a combined study utilizing the expertise and training of both groups.

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REFERENCE


The Effect of the Vapors of a Commonly Used Remedy for Colds on Pulmonary Antibacterial Defenses*

To the Editor:

In an abstract appearing in this journal, it was reported that a commonly used remedy for colds, Vicks VapoRub, adversely affected pulmonary host defenses of mice against Staphylococcus aureus. Because of the clinical implications of this finding, the work was extended in our laboratory, where contrary results were obtained.

Materials and Methods

Male Swiss albino mice (CD-1 strain, 20 to 25 gm) were exposed for 30 minutes to an aerosol of 32P phosphorus-labelled S. aureus (coagulase-positive FDA strain 209P, phage type 42D) in a previously described aerosol exposure chamber. Immediately after staphylococcal challenge (0