CPAP with Minimal Work of Breathing

To the Editor:

We endorse the proposition that "all positive airway pressures are not created equal" advanced by Mathru and colleagues in their recent editorial (Chest 1985; 87:137). However, their concluding paragraph invites our comment. They state that the ideal CPAP system is one that provides minimal inspiratory and expiratory flow resistance, maintains constant positive airway pressure (PAP) and variations in flow with respiration are accompanied by variations in resistance, and work of breathing are minimized. A high continuous flow circuit (elastance and inertance) is minimized by use of a weighted, partially inflated bag, and work of breathing is best accomplished with a high continuous gas flow circuit. These objectives are interdependent: work of breathing is least where PAP is constant, and PAP approaches constancy as inspiratory and expiratory flow resistances and other sources of circuit impedance are minimized. It is of interest to these physical properties in design of the CPAP circuit that results in a threshold-CPAP system, best equals the cardiopulmonary challenges posed by these patients.

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REFERENCES

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No Granules, No Mycetomas

To the Editor:

In the excellent article by Butz and co-workers, "Ten-year experience with mycetomas in patients with pulmonary tubercullosis" (Chest 1985; 87:356-58), the authors use the terms "mycetoma" and "fungus ball" analogously. The same expressions are also encountered in references 6 and 7. We would like to bring the readers' attention to the erroneous use of this terminology.

The term "mycetoma," which literally means a fungus tumor, was coined by Carter in 1861 to describe a malady that prevailed in India and principally affected the feet. He introduced the term as a replacement for a variety of names that existed then: madura foot, morbus tuberculosis pedis, fungus disease of India, Godfrey and Eyre's disease, endemic degeneration of the bones of the foot, fungus foot, morbus pedis ectyophytic affection singulière, perforating ulcer of the foot, etc. McGinnis concisely defined the term "mycetoma" as follows: "an infection of man and animals caused by a number of different fungi and actinomycetes classically characterized by draining sinuses, granules (grains), and tumefaction." Sinuses discharge serosanguinous fluid containing the granules that are compact and interwoven masses of the mycelium of the causal microorganisms. These granules vary in size, color, and degree of hardness, depending on the etiologic species, and are the hallmark of mycetomas.

It is misleading to use the word "mycetoma" to denote pulmonary "fungus balls." In such lesions, there is little or no invasion of lung tissue, the growth being limited to the cavity, and granules are not produced. Criticisms on the erroneous use of the term "mycetoma" have already been pointed out by Emmens et al and McGinnis et al. Continued use of the term "mycetoma" as a substitute for "fungus ball" would tend to perpetuate this confusing situation. Although Rippon's "fungoma" and Silva-Hutner's "hyphoma" were created as alternatives to "fungus ball," these have