Dynamic Chiropractic

Management of Expectoration in Chronic Obstructive Bronchopulmonary Disease (Mucus Discharge)

R. Vincent Davis, DC, PT, DNBPM

Any irritant entering the bronchopulmonary tree, including cold air, may result in a muciferous reaction by the mucous membranes of this system. Commonly, the bronchial cilia will respond to this increase in mucus volume by initiating a wavelike motion which tends to move the seromucus upward toward the oropharynx where it can be discharged by expectoration.

In the event the mucus is too viscous to be discharged through the mechanism of normal cilial motion, a clinical care regimen must be instituted by which to achieve removal of this material from the bronchopulmonary system. The longer this mucus remains present in this system the more inspissated it becomes with the result that removal by cough becomes nonproductive. Also, the presence of this material in this location serves as an excellent nidus for infection.

Although it is possible to decrease the viscosity of this mucus by the application of shortwave diathermy, care must be exercised not to enhance the effect of inspissation due to withdrawal of fluid from the mucus plug into the blood stream. This would, of course, be counterproductive. If thoracic auscultation reveals the presence of such mucus collection, high enough in the bronchial tree to be reached by a pulsed ultrasonic energy beam, this procedure would be more likely to prepare the mucus for discharge without enhancing the desiccating effect. This procedure would require directing the apex of the ultrasonic beam at the location where auscultation revealed its presence.

The most vital therapeutic tool, however, is the performance of cupped-percussion chest postural drainage. Due to limitation of space, this procedure should be reviewed in appropriate texts. If properly performed, this procedure is very effective in securing the discharge of inspissated mucus from the bronchopulmonary tree.

Because the secondary muscles of respiration are used rather forcefully to secure this evacuation, they may become sore.

It is even conceivable, clinically, to circumvent cor pulmonale, exertional dyspnea, right upper quadrant pain, and possibly dependent edema by the prudent use of this regimen.

In the event of mucopurulent expectorations, especially with elevation of the oral temperature, referral for antibiotic therapy becomes mandatory. If, due to chronicity, it is being treated with corticosteroids, care must be exercised to avoid costal fracture during percussion of the chest due to osteoporosis.

Chronic obstructive pulmonary disease (COPD) patients should be instructed to avoid overfilling their stomachs when eating. Gastric distention compresses the diaphragm and reduces chest/lung expansibility. Bronchopulmonary function is compromised by the effect of this distention, enhancing COPD complications.

References

Davis, R.V. Therapeutic Modalities for the Clinical Health Sciences, lst ed., 1983. Copyright -- Library of congress TXU-389-661.

Griffin, J.E.; Karselis, T.C. Physical Agents for Physical Therapists, 2nd ed. Springfield: Charles C. Thomas 1982.

Krupp & Chatton. Current Medical Diagnosis & Treatment. Lang 1983.

Krusen; Kottke; Elwood. Handbook of Physical Medicine & Rehabilitation, 2nd ed. Philadelphia: W.B. Saunders Company 1971.

Schriber, W.A. A Manual of Electrotherapy, 4th ed. Philadelphia: Lea & Feibiger 1975.

R. Vincent Davis, D.C., B.S.P.T., D.N.B.P.M.E.
Independence, Missouri

SEPTEMBER 1991