Lung Collapse Caused by Hiatal Hernia Secondary to Manual Abdominal Compression

To the Editor: Abdominal compression is a maneuver that is often applied in manually assisted coughing to aid patients with mainly neuromuscular disease whose cough is inadequate for removing bronchial secretions. We report the case of a woman who was tetraplegic secondary to transverse myelitis. Her caregivers provided manually assisted coughing for years but the maneuver was apparently related to the complication that required hospital admission.

A 33-year-old woman diagnosed with tetraplegia due to transverse myelitis at the age of 2 years also had severe kyphoscoliosis with restrictive respiratory defects. Her caregivers consistently applied assisted coughing to facilitate the removal of bronchial secretions. Physical examination revealed diminished vesicular sounds in the right hemithorax and rales related to bronchial secretions on the left. Arterial blood gas analysis showed an inspired oxygen fraction of 0.28, pH of 7.39, PaCO2 of 43.7 mm Hg, PaO2 of 68.3 mm Hg, bicarbonate ion concentration of 24.7 mmol/L, and arterial oxygen saturation of 93.4%. A chest radiograph showed severe kyphoscoliosis and opacities throughout the right hemithorax that had not been present in a computed tomography scan 6 months earlier. With a picture resolved, supporting the hypothesis of a causal relationship. Therefore, we advise that such abdominal compression techniques to assist coughing should be avoided in patients known to have a hiatal hernia. Alternatives such as thoracic compression or mechanically assisted coughing should be used instead. Similarly, radiographs should be obtained periodically in patients without hiatal hernia in whom abdominal compression is being used in order to detect such hernias early.

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LETTERS TO THE EDITOR