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RESPIRATORY REHABILITATION OF MECHANICALLY VENTILATED PATIENTS WITH ORGANOPHOSPHOROUS POISONING

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Abstract

Background and objectives: Organophosphates (OP) are used as insecticides in agricultural and domestic settings throughout the world. Acute organophosphorous (OP) pesticide self- poisoning is a major global problem. Early recognition of respiratory failure, prompt endotracheal intubation and mechanical ventilation are life- saving measures in severe OP poisoning. Patients with OP poisoning may have respiratory failure for many reasons, including aspiration of gastric contents, excessive secretions, pneumonia and septicemia complicating adult respiratory distress syndrome and thereby physical therapy may be indicated for patients in the intensive care setting. **Methods:** A total of twenty patients ranging in age from 25-45 years, mechanically ventilated for respiratory muscle paralysis, due to organophosphorous poisoning, recruited from various ICU's were included in the study. Effects of physiotherapy treatment were studied on static lung compliance (C_{ST}), oxygenation ratio ($PaO_2:FiO_2$ ratio). Measurements of dependent variables were recorded (PRE) before commencement of treatment, 30 minutes and 60 minutes after treatment. **Results:** Analysis of variance showed that there was highly significant improvement in C_{ST} mean values ($p<0.01$). Comparing mean values with critical difference, significant critical difference was observed between mean values at PRE and Post-30, and between PRE and Post-60 time intervals ($p<0.05$) for C_{ST} , $PaO_2:FiO_2$ respectively. **Conclusion:** Respiratory rehabilitation of patients with organophosphorous poisoning can be effectively achieved with employment of various physiotherapeutic techniques including manual hyperinflation and bronchial hygiene therapy.

Keywords: Manual hyperinflation, organophosphorous poisoning, static lung compliance, mechanical ventilation.