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APPLICATION OF A FAST-TRACK SURGERY PROTOCOL FOR VIDEO-ASSISTED THORACOSCOPIC THYMECTOMY IN NON-THYMOMATOUS MYASTHENIA GRAVIS: A CASE-CONTROL STUDY

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OBJECTIVES: The use of fast-track surgery (FTS) management has rarely been assessed in the treatment of non-thymomatous myasthenia gravis (NTMG) using video-assisted thoracic surgery (VATS). **METHODS:** FTS management was applied in 68 consecutive patients receiving VATS thymectomy for NTMG. Our FTS protocol included: maintenance of each patient's original anti-cholinesterase and steroid therapy perioperatively; no plasmapheresis or immunoglobulin therapy preoperatively; avoidance or minimization of central lines, chest tubes and ICU stays postoperatively; and specific management of postop respiratory difficulties without 'knee-jerk' assumption of myasthenic crisis. These patients were matched for multiple demographic and clinical variables with 68 similar patients from a historical cohort (VATS for NTMG but no FTS management) and clinical outcomes were compared. **RESULTS:** Complications occurred in 9 patients (13.2%) in the FTS and 13 patients (19.1%) in the Control groups ($P = 0.35$). Specifically, 9 patients (13.2%) in the FTS group and 8 patients (11.7%) in the Control group ($P = 0.79$) experienced respiratory difficulties in the postop period. In the 9 FTS patients, the cause of the dyspnoea was found to be sputum retention and the patients responded to clearance of the sputum plus muscarinic cholinoreceptor agonist therapy. In none of these patient did myasthenic crisis develop, or was ICU readmission or ventilatory support required. The mean initial postoperative ICU stay durations in the FTS and Control groups were 1.6 ± 2.1 h vs 37.1 ± 16.3 h respectively ($P = 1.3E-17$). The mean chest tube durations were 0.7 ± 1.3 h vs 31.1 ± 16.3 h respectively ($P = 6.3E-34$). The mean postoperative lengths of stay were 3.5 ± 0.8 days vs 7.6 ± 1.7 days respectively ($P = 2.9E-19$). The mean total expenses of the hospital stay were US\$ 2263.1 ± 301.3 vs US\$ 5116.3 ± 2585.1 respectively ($P = 2.1E-13$). **CONCLUSIONS:** Use of an FTS protocol after VATS for NTMG is safe and may complement VATS in expediting patient recovery. Sputum retention should be carefully distinguished from myasthenic crisis after surgery, and treated accordingly.