AB038. PS02.02: Proposal for refined classification of thymectomy

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Abstract: An extended thymectomy via a transsternal approach was adopted as a standard surgical treatment procedure in the recent MGTX trial (*N Engl J Med*, 2016). This was advocated based on the anatomical distribution of the thymic tissue and comparisons of clinical outcomes among relevant surgical procedures, and shown to clearly define the extent of resection of thymus fatty tissue. Following introduction of a video-assisted approach in the early 1990s, a thymectomy classification was proposed by the Myasthenia Gravis Foundation of America (*Neurology*, 1997; modified in 2000) in order to estimate the various types of surgical procedures available. Although this classification encompasses a wide range of procedures, the definition of some terms used is unclear, such as "basic", "classic" and "standard", and the extent of the thymectomy is not always clearly described. Previously, in the era of open thoracotomy procedures, surgeons would generally remove a thymoma together with surrounding thymus tissue to some extent without depending on complicating myasthenia or not. However, in accordance with the present concept of less invasive surgery, the necessity of a thymectomy has been examined, particularly in thymoma patients without myasthenia gravis (anti-acetyl choline receptor antibody negative). Therefore, to provide a more precise method for estimation of the outcome of surgical treatment for myasthenia and thymic tumors, a refined classification is needed, in which the extent of the performed thymectomy is clearly described in addition to the available surgical approaches. Proposed thymectomy classification presented first is terms to be used for surgical procedures that define the extent of resection of the thymus and peri-thymic fat tissue that are not dependent on surgical approach. They are numbered in order of extent of the thymectomy. Tx-1, maximal thymectomy. Removal of all surgically available thymus and fatty tissues above the thyroid to the diaphragm, and in the chest from hilum to hilum (Jaretzki, 1988). Tx-2, extended thymectomy. Removal from the diaphragm caudally to the phrenic nerves laterally and the thyroid gland superiorly (Masaoka, 1981). Tx-3, simple thymectomy. Removal within the confines of defined encapsulated thymic lobes. "Total" thymectomy may be included in this category. As the level of excision is not clear surgical-anatomically, this term should not be used here. Tx-4, partial thymectomy. Resection below the level of Tx-3, synonymous with a thymomectomy comprising resection of the surrounding thymus with margins clear of the tumor. Next, here are the approaches and methods used for each surgical procedure. Cv, transcervical; St, transsternal; Ax, transaxillary; Is, infrasternal. Op, open surgery; TS, thoracoscopic surgery; RA, robot-assisted surgery. Each surgical procedure is noted by combinations of the above terms (e.g., Ex-2/Ax/TS, Ex-3/Ax+Is/TS).

Keywords: Thymectomy; thymic tumor; classification; surgical procedure

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