Letter to the Editor

Safety of complete median sternotomy approach for thymectomy

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We read with interest the article 'Manubriotomy versus median sternotomy in thymectomy for myasthenia gravis. Evaluation of pulmonary status’ written by Granetzny et al. [1]. The authors are to be congratulated, especially for the detailed analysis of the respiratory changes in patients after a thymectomy. However, several points regarding the study should be raised.

Postoperative respiratory insufficiency rate with the use of a ventilator in patients of the complete sternotomy group was excessively high (15.4%) despite relatively mild myasthenia (only 1/26 patients in class I and IIa, according to MGFA classification) and the young age of most of patients (mean: 24.6 years). The respiratory insufficiency might have been a result of incorrect postoperative medication with intravenous delivery of neostigmine soon after the operation. It must be stressed that all anticholinesterase inhibitors should be withdrawn after the operation until the symptoms of myasthenia recur, which may take several hours or days. Delivery of anticholinesterase inhibitors too soon after an operation may be the cause of a cholinergic crisis, which is very difficult to distinguish from a myasthenic crisis in clinical practice.

The overall postoperative morbidity in the complete sternotomy group was very high (15.4% respiratory insufficiency and 26.9% other complications), despite quite limited invasiveness of the operative approach (the mediastinal pleura was not intentionally opened during the dissection and there is no mention about dissection of perithymic fat in the neck or epiphrenic fat pads). The authors state that “the maximal resection of the thymus gland and ectopic tissue was deemed mandatory for surgical success and improvement of the disease, and every effort was done to achieve it” is therefore hardly justifiable. Obviously, the technique used by Granetzny et al. is much less radical than techniques described by Jaretzki and Bulkley [2-4]. Also, the conclusion that “thymectomy through manubriotomy, which allows extensive removal of ectopic thymic tissue in addition to the thymus” is not supported by any results in the study. The results reported by our team [5] showed that postoperative morbidity in a complete sternotomy approach for a thymectomy was similar to an upper median sternotomy approach (equivalent of manubriotomy) regarding respiratory insufficiency (4 and 3%, respectively) and overall morbidity (12 and 10%, respectively). In addition, we have shown that the use of an extended thymectomy performed by a complete sternotomy approach resulted in significantly higher complete remission rates in comparison to a basic thymectomy performed through an upper median sternotomy (46.6 vs 15% after 4-year follow-up; P=0.0007).

In conclusion, (1) postoperative morbidity after a thymectomy through a complete sternotomy reported by Granetzny et al. is excessively high which leads the authors to the exaggeration of invasiveness of this procedure and (2) the statement that a manubriotomy approach enables equally extensive dissection as a complete sternotomy is not supported by the results of the study.

Despite the criticism of our remarks, we appreciate the contribution of Granetzny and colleagues very highly and we look forward for their further studies on the operative treatment of myasthenia gravis.

References


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Reply to the Letter to the Editor

Reply to Zielinski and Kuzdzał

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We have read with interest Dr Zielinski's letter and we thank him for his comments.

Different authors stated that partial sternotomy permits excellent visualization of the thymus gland, its vascular attachments, and all peripheral tissues in the mediastinal region limited by the thyroid gland superiorly, between the phrenic nerves laterally, and pericardial sac and mediastinal pleura inferiorly [1-3]. In our study, we took separate margins for frozen section analysis to make sure no thymic tissue is left behind, and to support our belief that the manubriotomy approach is equal to the sternal approach in the extent of dissection, with the advantage of being less invasive.

Postoperative morbidity was encountered in the sternotomy approach group of our study in six patients out of the 26 patients (23%). We did not differentiate the morbidity in major and minor; we mentioned all abnormal deviations encountered disregarding severity. In a literature review, the operative morbidity in transsternal thymectomy was found to be between 4 and 33% [4]. In our study, six patients who were operated upon through the transsternal approach had radiological evidence of pneumonitis; in four patients (15.4%) with clinical evidence of chest infection, and in two patients without clinical correlate. This is not surprising because patients with myasthenia gravis face major pulmonary problems as part of their disease process; as the myasthenic forced vital capacities are significantly lower than those for normal subjects. Due to expiratory weakness, cough efficacy is reduced and may lead to postoperative pulmonary complications [5]. The preoperative data of the patients in the sternotomy group of our study have demonstrated those findings in the form of a FVC of 67.2% and a FEV1 of 67% of predicted values.

According to the literature, in transsternal thymectomy the incidence of retention of respiratory secretions is 10%; of atelectasis is 7%. Pneumonia develops in 1-14% of patients, whereas upper airway infections afflict 1.5-35% of surgical patients [4].

As regards the non-pulmonary complications in our transsternal thymectomy group, they comprised wound infection in two patients with mediastinitis (7.7%), and one patient with phrenic palsy (3.3%). The following incidences of surgical complications are quoted in the literature for transsternal thymectomy: wound infection 1-7%, sternal disruption 1-4%, and injury to the phrenic nerve 0-4.5% [4].

In conclusion, we would like to emphasize that this comparative study is not trying to discredit the procedure of transsternal thymectomy, but is claiming that there are postoperative advantages of the manubriotomy approach with the same extent of resection which a sternotomy allows.

References


Letter to the Editor

Chronic obstructive pulmonary disease as a prognostic factor in non-small cell lung cancer

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We have read with great interest the report from Lopez-Encuentra and co-authors addressing the value of Chronic Obstructive Pulmonary Disease (COPD) as a prognostic factor in Non-Small Cell Lung Cancer (NSCLC) [1]. At the conclusion of their analysis on an impressive cohort of 2994 cases of lung cancer, the Authors have concluded that COPD can be considered as a prognostic factor and that there is a clear relationship between the severity of the condition (FEV1%) and survival.

We warmly congratulate the Authors for the clarity of their message and the rigorous methodology they adopted in the analysis, so much so as to insert COPD among the first line prognostic factors in NSCLC. Most interesting is that this is particularly true in early pathological stage (pI) condition, thus confirming COPD to be either an independent prognostic factor, or a completing (and stratifying) criterion within the pathological staging which is unanimously considered among the strongest of prognostic factors.

Along the lines of extreme simplification we would like to comment on this pattern: COPD, in the analysis reported in [1], has been demonstrated to be a purely ‘clinical’ prognostic factor. In fact, its detrimental effect on the overall 36-month survival is to be attributed to the diminished functional status (mainly Forced Expiratory Volume in 1 s—FEV1).

In the last decades, a vast amount of literature has been published addressing other, and possibly very important, prognostic factors—those connected with the molecular status of the disease.

The gene expression analysis (microarray) of NSLSC [2,3] has led to the identification of specific signatures predictive of survival in patients with the same stage of disease.