

Characteristics of Methods of Surgical Treatment of Tumors of the Anterior Mediastinum

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Abstract

Mediastinal neoplasms (tumors and cysts) in the structure of all oncological diseases account for 3 - 7%. Most often, neoplasms of the mediastinum are detected in persons 20 - 40 years old with myasthenia and 50 - 60 years old without myasthenia, that is, in the most socially active part of the population. About 80% of the detected neoplasms of the mediastinum are benign and 20% are malignant.

Keywords: Mediastinal Neoplasms; Thymectomy; Myasthenia Gravis

Introduction

Thymectomy occupies one of the leading places in the pathogenetically grounded complex treatment of generalized myasthenia gravis [1,2,5,6]. The majority of domestic and foreign centers dealing with the surgical treatment of myasthenia gravis prefer a median sternotomy approach to remove the thymus gland. However, due to the high trauma, this operation does not meet modern criteria for the quality of surgical care.

New technologies and the concept of mini-aggressiveness have qualitatively changed the views on the technique of performing thymectomy and brought them to a fundamentally new level. Analysis of the still very small number of works in the literature on the comparative characteristics of the results of thymectomy by the traditional and endosurgical methods proves the great promise of the latter [3,4].

Aim of the Study

The aim of the study is to analyze the results of surgical interventions in patients with thymus tumors from the "open" and videothoracoscopic approaches.

Materials and Research Methods

A retrospective analysis of the accounting and reporting data of 90 patients with thymomas of I-IV stages according to Masaoka, operated from January 2001 to December 2017, was carried out. The mean age was 54.8 ± 13 (17 - 76) years. There were 31 (34.4%) men and 59 (65.6%) women. Video-assisted thoracoscopic thymectomy was performed in 48 (53.3%) patients (main group), open thymectomy - in 42 (46.7%). In 14 (15.6%) cases, the tumor was associated with myasthenia gravis. The results of the study were processed using the IBM SPSS Statistics 23 software package, and the calculation of overall and disease-free survival was performed using the Kaplan-Meier method.

Results of the Study

There were no differences in the duration of surgery and serious postoperative complications. In the main group, there was a statistically significant decrease in intraoperative blood loss, the duration of pleural drainage and the duration of hospital stay ($p = 0.0001$).

There was no 30-day mortality. There were no statistically significant differences in 10-year overall and disease-free survival, which amounted to 97.1% after video-assisted thoracoscopic thymectomy and 83.5% after open thymectomy ($p = 0.29$) and 90.9% and 82.7% ($p = 0.49$), respectively.

The average observation time is 70 ± 53 (2 - 202) months. Multivariate analysis revealed prognostically unfavorable factors - stage III-IV according to Masaoka and histological type B2-C. According to the results of histological examination, it was found that 78 cases are thymoma and 12 - thymus cancer.

Based on the study, it can be concluded that the nature and volume of surgery for thymomas is influenced not only by the histological form of the tumor, but also by the degree of its invasion.

Conclusion

The conducted study indicates the implementation of a complete removal of the tissue of the thymus gland and fiber of the anterior mediastinum using video-assisted thoracoscopic thymectomy. The indicators obtained by us allow us, first of all, to speak about the low invasiveness of video-assisted thoracoscopic thymectomy, subject to the basic principles of operation. The easy course of the postoperative period, the good tolerance of the operation by the patients, the minimal risk of intraoperative complications and the good cosmetic effect speak of the advantages of video-assisted thoracoscopic thymectomy.

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