Reviewer’s report

Title: Recurrence after thymoma resection according to the extent of the resection

Version: 2 Date: 23 December 2013

Reviewer: Stefan Limmer

Review: “Recurrence after thymoma resection according to the extent of resection”

Summary:
In their study “recurrence after thymoma resection according to the extent of resection” the authors investigate the relationship between the extent of resection and the likelihood of tumor recurrence. The aim of the study is, to find out whether an extended thymectomy is correlated with a prolonged overall-survival. In a period of 26 years a total of 491 patients with resected thymoma were included in the study.

Follow-up data were collected in order to count the number of local recurrence or metastases.

The collected data were analysed in a retrospective study. The results showed no difference in the outcome concerning the recurrence rate between two compared groups (limited thymectomy vs. extended thymectomy).

Review:
# The question posed by the authors not new and therefore several studies about this topic have been published before, e.g. latest publication in november 2013 (Kazuo Nakagawa et al. “Does the Mode of Surgical Resection Affect the Prognosis/Recurrence in Patients With Thymoma?”). This study presents nearly the same methods and same results).
# The range of the follow-up-period is very widespread (1 to 255 month). One month of follow-up is definitely not sufficient, there has to be at least a period of 6 months.
# In those patients who did not show up for follow-up examination the data were “collected” via phonecalls (which is not reliable!).
# Question about the reliability? It is not possible to compare data when no CT-scans or even an simple physical examination can be performed. These patients had to be excluded from the statistical analysis!
# The adjuvant treatment after surgery is explained very poor “…however, because this strategy was not standardized for the entire study period, the strategy for adjuvant therapy was patient-specific according to each surgeon’s preference…” It is not clear, what the surgeon’s preference was. With no clear
and defined adjuvant therapy regimen it is hard to understand how groups can be compared. In my opinion it is not possible to state that the investigated effects (tumor recurrence) are absent or present just because of the extent of surgery. The effects of any adjuvant therapy can not be defined. In order to compare two groups patients need at least a standardized adjuvant therapy and/or a standardized type of resection (which is difficult in extended resections, of course).

# “extended... [or] ... limited thymectomy, depending on the stage and size of the thymoma as well as the clinical judgment of the surgeon. This policy has been supported by the results of a report previously published by our institution, which found that there was no difference in survival between extended thymectomy and limited thymectomy (thymomectomy)”. # What is the bias?? Were these results defined willingly or unwillingly supporting the statement of the previous study from the same institution?

# 26 years is a very long period of time (1986-2011, leading to different types of resection, technical or diagnostic changes and different treatment (medication). On the one hand, 26 years are positive for the large number of patients that could be included in the study. But on the other hand it has to be secured, that the long period of time doesn’t affect the composite of the sample (meaning the ongoing development of new techniques in diagnostics, therapy and treatment that could have influenced the study results). That is always a big problem in a retrospective analysis, longing for many years.

# The authors do not always give a reason why they use a certain method:
# e.g. the choice of the statistical test they used

# stage and size of the tumor were connected within the analysis. This is - according to other studies - not allowed (see: Stroebel P et al. Tumor recurrence and survival in patients treated for thymomas and thymic squamous cell carcinomas: a retrospective analysis. J Clin Oncol 2004 (22):1501-1509.

# Despite the large number of patients, both groups compared were very heterogeneous and therefore hard to compare. A smaller but more homogeneous group would be more valuable.

# The two investigated groups are surgically not defined very well. It is not clearly pointed out which anatomical structures were resected and which left behind. e.g. “leaving residual thymic tissue” for the limited thymectomy. What kind of tissue was left behind? And how much? And where?

In summary the paper has to be rejected in its present form. The clinical question is already answered and presents nothing new. The article has profound weaknesses in statistics and structure (e.g. follow-up, type of extended resection, remaining tissue, defined adjuvant therapy).

**Level of interest:** An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.