

Peer Review File

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Reviewer A:

Comment: In this manuscript, Stupnik gives an interesting overview of the thoracic surgical program in Slovenia. The data are really interesting, especially the results of the initial experience with lung Transplantation. I have just a minor commentary. How does the author explain the difference in survival results (although not statistically significant) between the patients lung-transplanted in Vienna and those transplanted in Slovenia? Is it maybe a consequence of Patient selection?

Reply: Probably the most plausible explanation for the difference in survival results is the advancement of lung transplantation over the 20 years. This difference no longer exists when Fig 3b was updated with the latest data (from July to October 2021).

Reviewer B:

Comment 1: The manuscript demonstrated the current state of Thoracic Surgery in Slovenia. The authors mentioned that the country also faces a significant workforce crisis, in which deficits harm the healthcare system and present a significant challenge to the field of thoracic surgery.

However, I believe that there are several essential issues to consider for publication.

(Lines 138-143)

The authors demonstrated that “In 2015, 17% of the presented patients had limited disease, 29% locally advanced, and 54% metastatic disease. Most patients (27%) did not receive any specific treatment, 23% were treated by radiation alone, 17% received chemo and radiation, and 19% were treated by surgical resection. Of approximately 250 lung cancer resections per year, the majority (42%) are performed in UMC Ljubljana, 36% at Golnik, and 22% in UMC Maribor.”

The authors should show the more precise statistical number of patients when they explain the state of Thoracic Surgery in Slovenia. The above data, which the authors described, was highly rough so that the reader could not utilize the article as a reference in the future.

(Lines 149-153)

The authors demonstrated that “In the past 20 years, lung cancer surgery in Slovenia, similar to the rest of the world, underwent a significant transformation: more precise surgical techniques and utilization of broncho vascular sleeve resections have reduced the rate of pneumonectomies from over 20% to less than 5%.”

The same comments are addressed as above. The authors should show the more precise statistical number of patients when they explain the state of Thoracic Surgery in Slovenia. The above data, which the authors described, was highly rough so that the reader could not utilize the article as a reference in the future.

Reply 1: Unfortunately, no dedicated lung cancer registry exists in Slovenia. Thus the available nationwide data is very scarce and mostly limited to the national cancer registry.

We tried our best to supplement the suggested paragraphs with additional data. Figure 3 was also added as an illustration of the development of pulmonary surgery in Slovenia. It is based on the information from UMC Ljubljana with arrows indicating the nationwide introduction of PET, EBUS, and Uniportal VATS.

Comment 2: (Lines 160-162)

The authors demonstrated that “This transformation contributed to a significant improvement of the 5-year survival of lung cancer patients from a dismal 8.7% in 1998 to 15.9% in 2015, although it is still approximately 3-4% lower than top European countries.”

The same comments are addressed as above. The authors should show the more precise statistical number of patients when they explain the state of Thoracic Surgery in Slovenia. Also, the authors should include information about lung cancer stages.

Reply 2: Stage-specific 5-year net survival was added to Figure 2.

Reviewer C:

Thank you very much for the opportunity to read about the challenges and the development of Thoracic Surgery in Slovenia.

I wish to make the following comments and hopefully the authors can further improve the manuscript by addressing these issues.

Comment 1: Abstract:

Line 19: suggest change to ‘... a small country in Southeastern part of Europe, with a GDP..’

Reply 1: Thank you for pointing out this typo.

Comment 2: Introduction:

Line 32:

‘a population of approximately 250.000.’ suggest change to ‘250,000’ . There are

many instances in the manuscript of the authors use a 'full stop' to where conventional use would be a comma.

Reply 2: Thank you. A comma is now used as a thousands separator and a dot as a decimal separator.

Comment 3: 1.3 Funding

Line 96: major pulmonary resection in UMC Ljubljana is reimbursed \$6.500, minor pulmonary resection \$6.500.

So the reimbursement is the same whether it is major or minor pulmonary resection? And is it really the case where an esophagectomy is more than double that of a major pulmonary resection?

Reply 3: This information is accurate, but the paragraph was unclear and was slightly rewritten.

Comment 4: 2. Lung cancer

Line 161: a significant improvement of the 5-year survival of lung cancer patients from a dismal 8.7% in 1998 to 15.9% in 2015.

Can you provide stage specific 5 year survival, after treatment?

For thoracic surgeons, the 5-year survival after surgery for stage I and surgery + adj treatment for stage II would be meaningful.

Reply 4: Unfortunately, no dedicated lung cancer registry exists in Slovenia. Thus the available nationwide data is very scarce and mostly limited to the national cancer registry. Stage-specific 5-year net survival was added to Figure 2.

Comment 5: 4. Lung transplant

Line 201: exposed significant problems that killed the surgical program of LTx

Can you indicate what were the challenges that led to the closing of the LTx program, and what changes were made to allow the program to be restarted in 2018?

Reply 5: The two paragraphs were rewritten to indicate why the LTx program was stopped in 2003 and then successfully restarted in 2018.

Comment 6: Line 203: reached 11th place worldwide in the number of LTx per million inhabitants

please give the exact figure.

Reply 6: The paragraph was supplemented by the exact numbers.

Comment 7: 5.1 esophageal surgery

Line 224: low postoperative morbidity and mortality.

please give the exact figures.

Reply 7: The section was supplemented with the data from UMC Ljubljana, where 85% of esophagectomies are performed.

Comment 8: 5.3 Pediatric thoracic surgery

please give an idea of the number of pediatric thoracic surgical cases being done per year.

Reply 8: A summary of pediatric thoracic procedures in Slovenia during the last decade is now provided in Table 1.

Reviewer D:

Comment 1: I appreciated reading about the history and state of thoracic surgery in slovenia. it is a wonderful story to be told.

When discussing current techniques and such, perhaps some volumes for anatomic lung resections/esophagectomies, etc. would be helpful, such as was given for the LuTx program.

Reply 1: Unfortunately, no dedicated lung or esophageal cancer registry exists in Slovenia. Thus the available nationwide data is very scarce and mostly limited to the national cancer registry.

We tried our best to supplement the suggested paragraphs with additional data. Figure 3 was also added as an illustration of the development of pulmonary surgery in Slovenia. It is based on the information from UMC Ljubljana with arrows indicating the nationwide introduction of PET, EBUS, and Uniportal VATS. The section “5.1 esophageal surgery” was supplemented using the data from UMC Ljubljana, where 85% of esophagectomies are performed. A summary of pediatric thoracic procedures in Slovenia during the last decade is now provided in Table 1.

Comment 2: A sentence or 2 in the introduction about the health care system in slovenia may be helpful for context.

Reply 2: A paragraph summarizing the health care system in Slovenia was added to the introduction.

Comment 3: In mentioning the finances, you report 6500 for major resection and 6500 for minor resection. is this accurate?

Reply 3: This information is accurate, but the paragraph was unclear and was slightly rewritten.