

# Pushing the limits in order to avoid pneumonectomy

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Response to: Perentes JY, Zellweger M, Gonzalez M. Is pneumonectomy still necessary? J Thorac Dis 2018;10:6414-7.

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We have read with great interest the letter from Dr. Perentes and colleagues (1) with his comments about our recent paper (2). Dr. Perentes agrees with our results affirming that for the treatment of centrally located lung cancer sleeve lobectomy should be preferred over pneumonectomy even after induction treatment. Our paper included patients undergoing Y sleeve lobectomy after neoadjuvant chemotherapy. Other experiences on sleeve lobectomy after induction treatment, reporting good results have been published (3-5). In their letter, the authors suggest that video-assisted thoracoscopic surgery (VATS) approach should be considered a viable option also when complex reconstructive operation like lower sleeve lobectomy are to be performed.

This is an interesting point of view and published experiences on Y-sleeve lobectomy performed by VATS has been reported (4). We all have seen case videos and pictures of VATS sleeve; often we have not seen any picture or data on long-term results. Important technical issues that pertain difficult bronchial reconstructions can be addressed by a careful technique. In this setting, open surgery allows a more precise placement of the stiches in order to correct even large discrepancy of size between the bronchial stamps, to preserve the segmental bronchi division and to avoid the torsion of the bronchial axis. These are crucial technicalities when performing in particular lower sleeve lobectomy.

Novel techniques have been proposed, in particular, for reconstruction of the pulmonary artery (in our opinion, tangential pulmonary artery repair should not be considered a real vascular reconstruction) (4,6). Therefore, pulmonary artery reconstruction (end-to end, patch or conduit) is not an issue anymore. The alternative among bronchial and/or vascular reconstruction, pneumonectomy, or irresectability is always an issue. If it has been demonstrated that easy and straightforward reconstructions can be made by VATS or robotic-assisted thoracoscopic surgery (RATS), this certainly does not apply to the majority of circumstances. Our paper maybe is not the first example of a contribution towards pushing the limits of what surgeon can achieve with sleeve lobectomy as Dr. Perentes and colleagues wrote; but our and other experiences suggest that every technical limit, when oncologically feasible, should be exceed in order to avoid pneumonectomy.

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#### Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

### References

1. Perentes JY, Zellweger M, Gonzalez M. Is pneumonectomy still necessary? J Thorac Dis 2018;10:6414-7.

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- Maurizi G, Ciccone AM, Vanni C, et al. Reimplantation of the upper lobe bronchus after lower sleeve lobectomy or bilobectomy: long-term results. Eur J Cardiothorac Surg 2018;53:1180-5.
- Cusumano G, Marra A, Lococo F, et al. Is sleeve lobectomy comparable in terms of short- and long-term results with pneumonectomy after induction therapy? A multicenter analysis. Ann Thorac Surg 2014;98:975-83.
- 4. Maurizi G, D'Andrilli A, Venuta F, et al. Bronchial and

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arterial sleeve resection for centrally-located lung cancers. J Thorac Dis 2016;8:S872-81.

- D'Andrilli A, Venuta F, Maurizi G, et al. Bronchial and arterial sleeve resection after induction therapy for lung cancer. Thorac Surg Clin 2014;24:411-21.
- D'Andrilli A, Maurizi G, Andreetti C, et al. Pulmonary artery reconstruction with pulmonary vein conduit for lung cancer: medium-term results. Ann Thorac Surg 2014;98:990-5.