



Advancement in the surgical treatment of pulmonary metastasis

The management of pulmonary metastases is a target in constant movement. Historically, it has been assumed that patients have a very poor survival when a primary tumour invades other organs, particularly the lungs. Some preliminary works have demonstrated that a substantial number of patients undergoing lung metastasectomy enjoy complete remission, thus benefit of prolonged survival. Initially proposed for highly selected patients with specific cancers, the indication of metastasectomy has expanded to various primary solid tumors and is now proposed in daily practice for a large number of patients, accounting for almost 10% of our surgical activity.

The results of the international registry clearly indicate that completeness of the resection is an important prognostic factor and that this can only be achieved by standard thoracotomy and bimanual palpation (1). In parallel, minimally invasive procedures have been gradually incorporated in the armamentarium of the thoracic surgeon, initially for benign disease and progressively for more advanced malignant cases.

However, the fear that additional nodules could be missed during pre-operative exams has persisted in the head of many surgeons active in the field of pulmonary metastasectomy. Yet, during the past two decades, two developments have modified this paradigm: the advancement in radiological imaging (1 mm thin slice single-breath CT-scan) and in minimally invasive surgery (instrumentation, peri-operative localization of lesions, number of ports, subxiphoid or robotic approach) (2). In parallel, surgery is now challenged by new emerging modalities of treatment such as radiotherapy or radiological ablation. Therefore, the trade-off between risks and benefits has progressively shifted towards the less invasive approach.

However, a new era of personalized medicine opens, where the genetic and the epigenetic modifications of the tumor and its micro-environment are of paramount importance to select the appropriate therapy. In this context, the need to collect good quality tissue not only from the primary but also from the metastatic lesion will increase.

Thus, the role of the surgeon will probably evolve from a purely curative action to a translational process leading to personalized therapy (3). Since most data relies on retrospective and systematic reviews for the role of pulmonary metastasectomy, no robust evidence-based recommendations can be issued and the current debate will go on. This focused issue on advances in the surgical treatment addresses all aspects of video-assisted thoracic surgery (VATS) pulmonary metastasectomy from the rationale of VATS to surgical aspects and margin of resection, via the progress of pre-operative localization.

I would like to thank all authors for their valuable contributions to this special issue and the editorial office of *Journal of Visualized Surgery* for their support. I really believe that this special issue reflects a considerable effort from numerous international colleagues, and so I hope you will find it interesting and useful!

Acknowledgments

Funding: None.

Footnote

Provenance and Peer Review: This article was commissioned by the editorial office, *Journal of Visualized Surgery* for the series “Advancement in the Surgical Treatment of Pulmonary Metastasis”. The article did not undergo external peer review.

Conflicts of Interest: The author has completed the ICMJE uniform disclosure form (available at <http://dx.doi.org/10.21037/jovs.2019.03.07>). The series “Advancement in the Surgical Treatment of Pulmonary Metastasis” was commissioned by the editorial office without any funding or sponsorship. MG served as the unpaid Guest Editor of the series. The author has no other conflicts of interest to declare.

Ethical Statement: The author is 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.

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References

1. Pastorino U, Buyse M, Friedel G, et al. Long-term results of lung metastasectomy: prognostic analyses based on 5206 cases. *J Thorac Cardiovasc Surg* 1997;113:37-49.
2. Perentes JY, Krueger T, Lovis A, et al. Thoracoscopic resection of pulmonary metastasis: current practice and results. *Crit Rev Oncol Hematol* 2015;95:105-13.
3. Perentes JY, Zellweger M, Gonzalez M. Personalized surgery for the management of pulmonary metastasis. *J Thorac Dis* 2018;10:52-5.



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Received: 05 March 2019; Accepted: 20 March 2019; Published: 26 March 2019.
doi: 10.21037/jovs.2019.03.07

View this article as: <http://dx.doi.org/10.21037/jovs.2019.03.07>

doi: 10.21037/jovs.2019.03.07

Cite this article as: Gonzalez M. Advancement in the surgical treatment of pulmonary metastasis. *J Vis Surg* 2019;5:31.