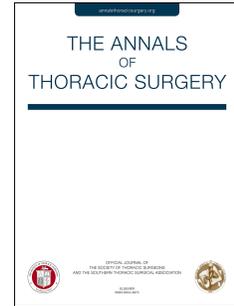


# Accepted Manuscript

Is Post-Operative Lung Ultrasonography Effective in Lung Abnormalities Analysis?

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**Is Post-Operative Lung Ultrasonography Effective in Lung Abnormalities Analysis?**

*To the Editor:*

We read with interest the article of Dr. Patella (1) about the use of chest ultrasonography after thoracic surgery for pneumothorax evaluation and management. We completely agree about the use of ultrasound in the post-operative evaluation with the possibility to reduce the number of chest X-ray (CXR). In fact, it is well known that in many cases the postoperative CXR, especially when daily performed, represents a possible waste of time and resources(2).

For this reason, we also started a pilot study to plan a larger evaluation for the adoption of chest ultrasonography (CU) as the main exam for postoperative evaluation, limiting the CXR only in selected cases.

We noticed that the CU has been adopted for post-operative evaluation especially for pneumothorax and pleural effusion analysis, without investigating lung parenchyma alterations, especially in papers with inadequate training (3). Conversely, in our preliminary experience with 24 patients, CU was effective for post-operative evaluation in the major part of them (19/24,79%), with better results in patients underwent minimally-invasive surgery. Indeed, in this group CU was considered effective in the 85% of cases.

Moreover, the CU operators were certified in Chest ultrasonography with almost 5 years' experience, so we also appreciate the evaluation of lung abnormalities, with the possibility to discriminate between lung atelectasis or lung contusion and/or hematoma with real time modification after recruitment maneuvers. Finally, we identified as the most important limit the association of massive subcutaneous emphysema associated with absence of lung point and air leak, while the presence of subcutaneous emphysema only didn't compromise the CU analysis.

On the basis of your experience, do you think that CU may be useful also for post-operative lung evaluation, considering CXR as a second level exam?

Moreover, how much is important the training for post-operative evaluation? In particular we noticed also in your paper that the pneumothorax interpretation in upper lobectomies may be challenging because the remaining lobe may not fill the residual pleural space. What do you think about it?

Finally, what is, in your opinion, the major technical limit of post-operative ultrasonography?

Based on the data reported, we would really appreciate the authors' reflections and reaction on the aspects debated.

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