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DOES VIDEO-ASSISTED THORACOSCOPIC SURGICAL (VATS) LOBECTOMY REALLY RESULT IN FEWER COMPLICATIONS THAN THORACOTOMY? THE BIASES ARE CLEAR, THE ROLE OF VIDEO-ASSISTED THORACOSCOPIC SURGERY LESS SO

To the Editor:

The article by Boffa and colleagues,¹ "Fewer Complications Result From a Video-Assisted Approach to Anatomic Resection of Clinical Stage I Lung Cancer," is an excellent attempt to compare video-assisted thoracoscopic surgery (VATS) and thoracotomy. There are many more limitations, however, than those stated in the article. We must be objective and honest with ourselves and our colleagues before we begin to claim that VATS is the criterion standard.

1. The nature of the Society of Thoracic Surgeons database does

not allow the accurate assessment of VATS conversions to thoracotomy. This limitation is stated in the article, but it must be emphasized. This alone can falsely favor VATS relative to thoracotomy.

2. The patients who had VATS and thoracotomy were excluded from the comparative analysis. This methodology is incorrect. This group should be included in the VATS group as an intent-to-treat analysis.²

3. How many VATS anatomic resections resulted in pneumonectomy or some other catastrophic complication? Catastrophic complications, including unexpected pneumonectomy, are frequently overlooked.³

In a previous study, unplanned pneumonectomy occurred in 1 of every 200 cases.³ This is not captured by the Society of Thoracic Surgeons database, and Boffa and colleagues¹ did not address this issue.

4. Individual surgeons decide whether to perform VATS or thoracotomy for many reasons, including body habitus, comorbidities, dense adhesions, the presence of anatomic issues such as a left internal thoracic artery in a left upper lobe lobectomy, and learning curves. These factors were not included in this analysis. Not taking this surgical bias into account makes thoracotomy appear unfavorable to a higher degree and VATS appear better to a higher degree.

5. Propensity matching cannot control for the selection biases occurring before surgery or during surgery in patients who had thoracotomy and VATS (possible conversions). It is up to the investigator to consider all possible factors that may bias outcome in favor of VATS and against thoracotomy and to attempt to control for such factors.

There is selection bias taking place at multiple levels here. VATS is not for every patient, nor is it for every surgeon. We need to monitor alleged

benefits carefully before subjecting patients to harm from overzealous performance of VATS lobectomy when thoracotomy is warranted. We must therefore be careful of falsely overstating the benefits of VATS lobectomy.

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THE VATS ADVANTAGE: SEEING IS BELIEVING ... AND VICE VERSA

Reply to the Editor:

My coauthors and I appreciate Dr Flores's thoughtful response to our study. Dr Flores has emphasized the potential for bias related to video-assisted thoracoscopic surgery (VATS) cases that were converted to thoracotomy. Although it is not possible to identify cases of conversion directly, it is possible to identify patients that underwent a VATS on the same day as an anatomic lung cancer resection by thoracotomy (subsequently referred to as "multiple approach patients"). The multiple approach patients would include patients with conversion as well as patients who underwent a diagnostic VATS before a planned thoracotomy for anatomic resection. We have evaluated 2 ways in which converted cases could bias the results.