

Editorial

 The Number of Ports in Lung Resection Surgery: A Pointless Debate[☆]


El número de puertos en la cirugía de resección pulmonar: un debate irrelevante

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Over the past 10 years, the medical literature on pulmonary resection has seen the appearance of multiple articles describing new thoracic surgery techniques. One of the most controversial is the single-port or uniportal approach. In this technique, unlike conventional video assisted thoracoscopic surgery (VATS), only 1 incision measuring about 5–6 cm is made, with no additional incisions for the introduction of optical or other surgical instruments. The current debate centers on whether surgery performed via a single incision provides real clinical benefit to the patient, compared with the conventional procedure, consisting of one main incision plus 1 or 2 smaller ones (measuring less than 1 cm).

The first step in demonstrating the superiority of a particular approach is to collect and compare measurable and reproducible variables. Variables such as surgical time or conversion rate to open surgery are measurable, but not reproducible, since they depend largely on the personal skill and circumstances of the surgeon who performs the operation. Length of hospital stay or time with pleural drains are inappropriate because they are easily manipulated, except in randomized studies in which the criteria for discharge and removal of drains are standardized and the treating physician does not know which type of procedure was performed. Other variables such as 30-day mortality, disease-free survival, postoperative pain, or complication rate are more appropriate. However, only comparable cases can be compared, so randomization is used in prospective studies and case-matching in retrospective analyses, applying any of the available statistical techniques.

In any case, parameters selected for analysis should represent real clinical advantages for the patient and not reflect a desperate search for *P*-values lower than .05 among a long list of variables. One particular example of this is a recent article¹ in which the authors conclude that patients undergoing lung resection under sedation without muscle relaxation or tracheal intubation need less postoperative fasting time than those who were anesthetized using muscle relaxation and intubation. Obviously, a longer postoperative fasting period will not be required if the patient has not been anesthetized. This article is a clear example of the fact that research objectives are sometimes established after the results have been revealed.

Returning to the subject of this editorial, let's see what the scientific literature tells us about the real clinical advantages of uniportal surgery compared with VATS. To this end, I have reviewed the publications available in PubMed in English from the last 3 years.

(1) Immediate postoperative outcomes

A systematic review and meta-analysis² and two studies not included in the meta-analysis have been published; one of these was a retrospective case-matched study,³ and the other was a randomized prospective study.⁴ The authors of the systematic review² retrieved 1051 literature references, of which 913 were excluded after being judged as duplicates or irrelevant. Of the 38 selected studies, the authors took 8 that met the inclusion criteria, four of which used propensity score matching. In these four studies, which were the most methodologically sound, no differences were found in terms of duration of surgery, hospital stay, perioperative bleeding, time with pleural drains, conversion rates to thoracotomy, or perioperative morbidity. However, the authors concluded that single-port surgery generates statistically less postoperative morbidity, a shorter hospital stay, and less time with pleural drains, although they do add that these are clinical advantages with little relevance.

The other case-matched retrospective study³ found statistically significant differences in postoperative pain and bleeding, but no clinical repercussions. The rate of complications is not statistically different between the two case series.

Finally, the only prospective, randomized trial published⁴ did not find any difference between the variables analyzed in the series of patients operated using VATS or the uniportal technique.

(2) Long-term outcomes

Only 1 retrospective study that did not include case-matching has been published.⁵ This study analyzed the probability of overall survival and disease-free survival of two series of patients undergoing standard or uniportal VATS. The authors found a higher probability of death 4 years after surgery (HR=1.78) and a shorter disease-free survival in cases operated

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by single incision, although this difference is not statistically significant. This study may reflect the learning curve in a single hospital and its conclusions cannot be generalized.

We can conclude from these data that there is no conclusive evidence that pulmonary resection surgery performed through a single 5–6 cm incision offers patients immediate postoperative advantages of any kind. As for long-term data, the only published study on the subject (the methodology of which leaves room for improvement) has questioned whether survival after the uniportal approach is comparable to that offered by conventional VATS surgery. My personal conclusion is that the uniportal-VATS debate simply underlines the technical preferences of individual surgeons or surgical teams and entirely lacks relevance in the scientific literature, since the single incision technique does not benefit patients in any way.

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