“Show me the money”

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Over the past several decades, there have been many techniques described and technology developed for pulmonary resection. Despite all of these techniques and technology, postoperative air leaks (PAL) have remained the primary source of prolonged hospital length of stay (LOS) with associated costs.¹ The European Society of Thoracic Surgeons (ESTS) has validated a very straightforward risk model predictive of PAL after video-assisted thoracic surgery lobectomy.² Brunelli and coworkers have taken this ESTS risk model to the next step by showing increased hospital costs in patients at high risk for PAL ostensibly to justify the use of intraoperative interventions such as lung sealants/buttress materials.³

Perhaps some of us recall the epic telephone conversation between actors Tom Cruise and Cuba Gooding Jr in the 1996 movie *Jerry Maguire*. We found amusement in the dialog between a sports agent and a professional football recruit trying to maximize his income. In real life, we as surgeons seem to face an ever-increasing burden of cost justification especially for new technology to hospital administrators, which we, however, do not find particularly entertaining. The authors of this report are to be commended for their work in this regard.

There are several strengths of this study including a consistent expert surgical and postoperative care approach at a single institution. The air leak quantitation used as criteria for chest tube removal maintains excellent control. The weaknesses of this study are well defined including that although it is a reasonable assumption that cost increases in high- compared with low-risk PAL patient populations would also be observed in other health care systems, the specific cost differential in other systems is unknown. High ESTS PAL risk scores, which were independently predictive of increased costs due to prolonged LOS, are obviously known before surgery. The other variable independently predictive of increased LOS in this study was, however, postoperative cardiovascular complications, which are not strictly predictable. Moreover, cardiopulmonary complications occurred at a twofold higher rate in

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Central Message

Brunelli and coworkers present a solid argument to justify the costs of intraoperative interventions such as pulmonary sealants/buttress materials in patients at high risk for prolonged air leak after VATS lobectomy.

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patients with PAL compared with patients without PAL making prolonged LOS a multifactorial issue which would seem to be a bit difficult to predict before surgery from a financial allocation standpoint. Finally, the authors make a mathematical argument that the costs of intraoperative intervention such as use of a pulmonary sealant in high-risk PAL patients could be justified by reducing the LOS. To date however, although sealants have been shown to decrease hospital LOS, the efficacy of pulmonary sealants specifically in high-risk patient populations would seem to need further study.

Besides intraoperative interventions, postoperative strategies, which seem worthy of consideration for select patients with PAL, include bedside chemical pleurodesis through indwelling chest tubes or more aggressive utilization of outpatient chest tubes. Perhaps the quantitative air leak system used for chest tube removal criteria in this study could also identify patients who might benefit from earlier postoperative interventions? Regardless, reducing costs while maintaining quality is a delicate balance, which has been an increasing demand on surgeons. This study represents a solid contribution in a growing trend to justify the costs of new technology in a peer-review forum.

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