If your hospital has RATS, do not exterminate

Moishe Liberman, MD, PhD

From the Division of Thoracic Surgery, University of Montréal, Montréal, Québec, Canada; and the CETOC (CHUM Endoscopic Tracheobronchial and Oesophageal Center), Centre Hospitalier de l'Université de Montréal, Montréal, Québec, Canada.

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Address for reprints: Moishe Liberman, MD, PhD, Division of Thoracic Surgery, Centre Hospitalier de l'Université de Montréal, 1560 rue Sherbrooke Est, 8e CD, Pavillon Lachapelle, Bureau D 8051, Montréal, Québec, Canada H2L 4M1 (E-mail: moishe.liberman@umontreal.ca).

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In this edition of the *Journal*, Cerfolio and colleagues¹ report on the largest retrospective series of robotically assisted thoracoscopic surgical (RATS) lobectomy for non-small cell lung cancer with long-term follow-up from 4 institutions. Data such as these are important in terms of benchmarking, demystifying, and proving long-term oncologic safety of the technique. The ability to report complete follow-up for 99% of patients is more than excellent and lends to the power of the study.

Stage-specific survival was excellent; however, this should not be interpreted by the reader to mean that RATS is a superior oncologic procedure to video-assisted thoracoscopic surgery (VATS) or thoracotomy. This study is retrospective, and there is no information in the article regarding case selection for RATS instead of VATS or thoracotomy in these institutions during the study period. There is no way to know or to control for the patients who underwent lobectomy during the same time period with techniques other than RATS and whether this was due to tumoral or anatomic factors that placed the patients at higher risk for poor surgical and oncologic outcomes (hilar position of tumors, larger tumors, multiple N1 disease, pleural invasion, previous lobectomy or thoracic procedure on the ipsilateral side, thoracic or mediastinal radiation, immunosuppression, anticoagulation, pulmonary hypertension, poor cardiopulmonary function, etc).

It is universally accepted that minimally invasive lobectomy should be the standard of care for stage 1 non-small cell lung cancer. Acceptable techniques include VATS and RATS. Within these 2 approaches there are many different setups and port placements (single-port, 2-port, 3-port, multiport, subxyphoid, transcervical, etc) and port sizes (3 mm, 5 mm, 8 mm, 10 mm, 12 mm, 2 cm, 3 cm, 4 cm, 5 cm, etc).

Lobectomy by thoracotomy—historical interest only?

Central Message

The largest series of robotic lobectomy for non-small cell lung cancer to date provides good data and long-term follow-up regarding the safety and long-term oncologic outcomes of the procedure.

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The approach, port placement, port size, and technical differences probably make little difference to the patient, as long as a minimally invasive approach without rib spreading is chosen.²

The 9% conversion rate seems high when compared with VATS series; however, there is a learning curve here, and this should have decreased with time (data not reported). The conversion rate for VATS lobectomy in a large series reported by McKenna and colleagues³ from an experienced center was 2.5%. It is obvious that RATS is equivalent to VATS in terms of long-term oncologic outcome and safety. The question that remains to be answered is whether the cost of the procedure can be justified.

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