

Robotic-assisted right upper lobectomy: with the further research, robot-assisted thoracic surgery (RATS) will be better in future

Hailei Du, Hecheng Li

Department of Thoracic Surgery, Ruijin Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai 200025, China

Correspondence to: Professor Hecheng Li. Department of Thoracic Surgery, Ruijin Hospital, Shanghai Jiao Tong University School of Medicine, 197 Ruijin 2nd Road, Shanghai 200025, China. Email: lihecheng2000@hotmail.com.

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We are grateful for the reviewers' comments on our manuscript entitled "*Robotic-assisted right upper lobectomy*" (1). Robot-assisted thoracic surgery (RATS) has been performed for several years with the first robotic lung resections described in 2002 by Melfi *et al.* (2). An analysis of the U.S. National Cancer Data Base found that the percentage of robotic lobectomies increased from 3% in 2010 up to 9% in 2012 (3). Although the number of robotic lung resections performed are increasing, the primary factor that continues to impede widespread use of the robotic technique is the higher overall cost of RATS relative to the cost of video-assisted thoracic surgery (VATS) approaches (4-7). We believe that the cost of robotic surgery will decrease as the instrumentation develops and when the pertinent patent becomes overdue.

Currently, we need randomized controlled studies that compare VATS and robotic assisted thoracoscopic surgery to determine which procedure should be used to remove various stage tumors. We believe that RATS lobectomy should be taught to all thoracic surgery residents. Access to an animal lab to train surgeons in RATS and VATS is critical for training. After training, we recommend that appropriate measures be taken to prevent and/or properly manage intraoperative complications with the robot.

We believe that new developments, such as improved instruments, tactile feedback, and "enhanced" reality, in RATS will reduce the cost of robotic surgery and will allow for more and improved widespread use of this advanced technology.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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