A new technique for dissecting the pulmonary vessels and handling scissors

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The pulmonary artery (PA) is the weakest vessel in the human body, and many think that it should never be grasped with forceps. We earlier described a technique for safe, rapid dissection of the PA and pulmonary vein (PV) that simply handles scissors in a novel way. Since 2001, this method has been applied in more than 800 cases of segmentectomy, lobectomy, and pneumonectomy during both open surgery and video-assisted thoracic surgery (VATS). It employs Mayo-type scissors for sharp dissection of the PA and PV. Sheaths on the surfaces of the central parts of the pulmonary vessels are dissected using scissors approximately 5 mm long. The vessel is then ligated with 2-0 silk at the same site. The surgeon directly grasps the blood vessel with vascular forceps just distal to the first ligation site and retracts it to the central side. The distal side of the blood vessel is exposed aggressively with Mayo-type scissors by dissecting the sheaths surrounding the vessel with the associated connective tissue including perivascular lymph nodes. These maneuvers are possible when using this novel handling of the scissors (e.g., right-angle forceps for VATS). None of the patients exhibited blood vessel injury. The procedure easily exposes about 2 cm of small vessels and >3 cm of larger vessels. It is useful in most circumstances—e.g., tumor invasion of an area surrounding a blood vessel or with a perivascular enlarged lymph node without direct invasion. Almost all right upper lobectomies (ND2a) are completed within 2 hours (small thoracotomy) to 2.5 hours (complete VATS). Surgery duration can be dramatically shortened when using this method. This technique and the new method for handling the scissors will be demonstrated in a video.

Biography
Sadanori Takeo has completed his PhD at Kyushu University in Immunological Sciences. He was one of the pioneers in Thoracic surgery and VATS surgery in Japan. He and his team were the first to report Original video-assisted thoracoscopic extended thymectomy for thymoma. He later became the Chairman of the Department of Thoracic Surgery at National Hospital Organization Kyushu Medical Center. He has served on the editorial boards of many scientific journals, and on the advisory panels of many academic and government institutions. He is a member of board of the many academic association and has published more than 90 papers in lung cancer and mediastinal tumor fields. He is the Director General of Clinical Department at National Hospital Organization Kyushu Medical Center.

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