

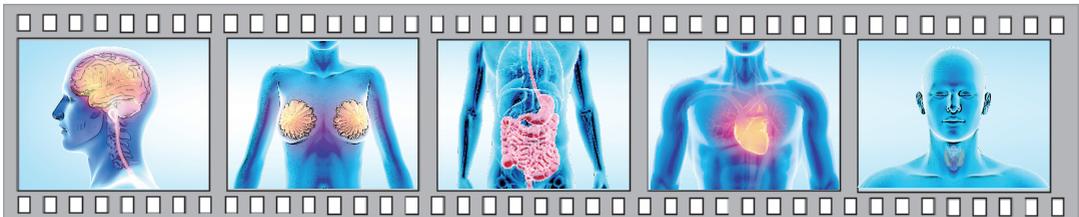


asia medical specialists
亞洲專科醫生



Organization accredited by
Joint Commission International

Minimally Invasive Thoracic Surgery



Thoracotomy is one of the most painful incisions of any surgical procedure, and its associated complications, such as pneumonia, are well known. Video-Assisted Thoracoscopic Surgery (VATS) offers the benefits of a minimally invasive approach with reduced pain and complications^{1,2}.

Sweaty Palms

Sweaty palms can be quite distressing, but can be effectively treated by sympathectomy. Unfortunately, the traditional open approach, either supraclavicular or transaxillary, is associated with significant risks such as phrenic nerve injury and lung injury, in addition to complications associated with a large wound. Not surprisingly, physicians were reluctant to refer patients for sympathectomy. With VATS, the procedure can be performed via 2 to 3 mm incisions and the patient often discharged on the same day. The result is extremely good with nearly 100% success rate and minimal risks^{3,4,5}.

Spontaneous Pneumothorax

Another thoracic condition that benefits from VATS is spontaneous pneumothorax. A very clear thoracoscopic view enables identification of bullae, which are often the cause of the air leak. The bullae can be easily excised with an endostapler or ligated with sutures. A thorough mechanical pleural abrasion ensures sound pleurodesis. The patient can be discharged three to five days after operation. Recurrence rate is around 5%^{6,7}. For those elderly patients with secondary spontaneous pneumothorax, VAT pleurodesis can be performed under local anaesthesia with talcum powder. The result is equally good.⁸ VAT talc pleurodesis is also indicated for those patients suffering from malignant pleural effusion and for recurrent pleural effusion from other causes such as peritoneal dialysis⁹.

Lung Cancer

For lung cancers, VAT lobectomy eliminates the complications associated with a thoracotomy. Post operative pain is minimal and the patient can be discharged 5 to 7 days after the operation. Studies have shown that for early stage cancers VATS offers similar oncological clearance as traditional open lobectomy with comparable survival rates¹.

VATS Biopsy

With increased health awareness and more exhaustive pre-operative investigations such as CT, MRI and PET scans, more abnormalities are being picked up in asymptomatic patients. In most cases, the physician is obliged to do further investigations to find out the nature of these lesions. CT guided fine needle aspiration (FNA) cytology offers the best answer if the lesion is big enough for aspiration and located in a position amenable to percutaneous biopsy. However, FNA might not be successful or conclusive. VATS offers a clear examination of the pleural cavity and the lung lobes, and excision of the nodule provides a specimen for a definitive histological diagnosis ¹⁰.

Miscellany

Other thoracic procedures that are amenable to VATS include thymectomy for myasthenia gravis and thymoma, excision or biopsy of mediastinal tumours, decortication for early empyema thoracis and diagnosis for pleural effusion of unknown causes.

References

1. Scott WJ, Allen MS, Darling G, Meyers B, Decker PA, Putnam JB, McKenna RW, Landrenau RJ, Jones DR, Inculet RI, Malthaner RA. Video-assisted thoracic surgery versus open lobectomy for lung cancer: a secondary analysis of data from the American College of Surgeons Oncology Group Z0030 randomized clinical trial. *J Thorac Cardiovasc Surg.* 2010 Apr;139(4):976-81
2. Deva AK, McCaughan BC, Monaghan G, Hendel PN, Hughes CF, Thomson DS, Baird DK. Video-assisted thoracoscopy. *Aust N Z J Surg.* 1994 Oct;64(10):705-9.
3. Tai YP, Lee MWM, Li MKW. Thoracoscopic sympathectomy for palmar hyperhidrosis: Hong Kong early experience. *Hong Kong Medical Journal.* 96; 2(3): 315-8
4. Wait SD, Killory BD, Lekovic GP, Ponce FA, Kenny KJ, Dickman CA. Thoracoscopic sympathectomy for hyperhidrosis: analysis of 642 procedures with special attention to Horner's syndrome and compensatory hyperhidrosis. *Neurosurgery.* 2010 Sep;67(3):652-6;
5. Herbst F, Plas EG, Fugger R, Fritsch A. Endoscopic thoracic sympathectomy for palmar hyperhidrosis of the upper limb. A critical analysis and long-term results of 480 operations. *Ann Surg* 1994;220:86-90.
6. Chan P, Clarke P, Daniel FJ, Knight SR, Seevanayagam S. Efficacy study of video-assisted thoracoscopic surgery pleurodesis for spontaneous pneumothorax. *Ann Thorac Surg.* 2001 Feb;71(2):452-4.
7. Gossot D, Galetta D, Stern JB, Debrosse D, Caliandro R, Girard P, Grunenwald D. Results of thoracoscopic pleural abrasion for primary spontaneous pneumothorax. *Surg Endosc.* 2004 Mar;18(3):466-71
8. Ramos-Izquierdo R, Moya J, Macia I, Rivas F, Ureña A, Rosado G, Escobar I, Saumench J, Cabrera A, Delgado MA, Villalonga R. Treatment of primary spontaneous pneumothorax by videothoracoscopic talc pleurodesis under local anesthesia: a review of 133 procedures. *Surg Endosc.* 2010 May;24(5):984-7
9. Mak SK, Nyunt K, Wong PN, Lo KY, Tong GM, Tai YP, Wong AK. Long-term follow-up of thoracoscopic pleurodesis for hydrothorax complicating peritoneal dialysis. *Ann Thorac Surg.* 2002 Jul;74(1):218-21.
10. Mack MJ, Hazelrigg SR, Landreneau RJ, Acuff TE. Thoracoscopy for the diagnosis of the indeterminate solitary pulmonary nodule. *Ann Thorac Surg.* 1993 Oct;56(4):825-30