MINIMIZING CHEST WALL TRAUMA IN VIDEO-ASSISTED THORACIC SURGERY

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Landreneau and associates¹ recently concluded from their study that the prevalence of long-term chronic pain after an apparently less traumatic procedure to the chest wall is not significantly different from that after thoracotomy.

Intuitively, one might think that the trauma to the chest wall during video-assisted thoracic surgery (VATS) should be comparable with the trauma of placing a large-bore chest tube. Yet, why are we seeing so many more patients with chronic pain after VATS than after chest tube insertion? Among our patients with chronic pain after VATS, the majority have dysaesthesia along the thoraco-abdominal dermatomic distribution of the intercostal nerve (usually involved at the camera port) rather than at the incision sites. Although most Chinese patients have a thinner chest wall, their relatively smaller stature compared with the white population means that they also have smaller intercostal spaces. Even moderate torquing of the thoracoscope through a 10.5 mm port placed low in the chest over a period of time could result in significant trauma to the intercostal nerve. We have found the following maneuvers to be useful in our practice.

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1. We routinely flex the operating table not only to drop the hip so that it will not interfere with the maneuvering of the thoracoscope. More important, this position opens up the intercostal spaces for the insertion of the telescope and instruments² (Fig. 1). When a utility minithoracotomy is required, opening up of the intercostal spaces will often give enough of a "gap" in the wound to render excessive rib retraction unnecessary.

2. We absolutely avoid torquing of the thoracoscope. Whenever we believe we will have to torque a 0-degree telescope to visualize, for example, lateral chest wall structures, we switch to a 30-degree lens instead.

3. We frequently do not use a rigid port for instruments with the exception of staple cutters³ but prefer to introduce instruments (endoscopic and conventional) directly through the wound, because we have found it easier to maneuver the instruments that way.

4. We are changing to use smaller telescopes (5 mm) for simpler procedures like sympathectomy or bleb resection. We have found the smaller thoracoscope to be perfectly adequate.

5. Specimens are usually delivered through the anterior port because the anterior intercostal spaces are wider.

Postoperative pain was assessed by standard visual analog scale as well as analgesic requirement both at the time of discharge and in the outpatient clinic.⁴ We have found that, after adopting these maneuvers, we have fewer complaints in our follow-up than in our earlier experience when we did not use those maneuvers. At present, about

Fig. 1. Patient is placed in full lateral decubitus position with the table flexed at 30 degrees between the level of the nipples and the level of the umbilicus (less flexion in elderly patients).

15% of our patients report some discomfort in the clinic and only 5% require any oral analgesics. Other factors may be responsible for the improved results, including increased experience of the team, but we believe that the described maneuvers, especially flexing of the operating table, are important contributing factors.

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