Post-thoracotomy pain and nerve protection: Back to the drawing board?

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Jiwnani and colleagues1 present a randomized, double-blinded trial of conventional versus nerve-sparing thoracotomy. Acute and chronic pain after thoracotomy can lead to significant morbidity, especially pulmonary complications, and has been one of the main drivers of minimally invasive techniques in thoracic surgery. Many investigators have reported improvement in postoperative pain by using nerve-sparing techniques, such as intercostal suturing, edge-to-edge sutures, and protection of the intercostal nerve by mobilizing the intercostal bundle.2,3 Nerve-sparing techniques are attractive, because they are straightforward, quick, and associated with low operative costs. Several studies have reported decreased pain, whereas others have found no difference.4,7

Should this trial signal the end of nerve-sparing thoracotomy techniques? The answer is unclear. The average and maximum pain scores are relatively low in both the control and treatment groups, 1.85 and 3.83 versus 1.77 and 3.71, respectively.1 More representative of what many see after a thoracotomy was reported in an Italian study: average pain scores on postoperative day 1 of 6.2 and 4.3 in the standard and intervention groups, respectively.5 Study design could be an issue. This study was powered to detect a 1-point decrement between the control and treatment arms of the study. Whether that is an appropriate target or not is debatable. It may be unrealistic to expect that any intervention would decrease the maximum perceived pain by 25% and average pain by 50%. A larger sample size might detect a smaller change in pain, whereas others have found no difference.8

Do we surgeons need to go back to the drawing board and find new ways to mitigate pain from an incision that cannot be abandoned? Emphatically yes. Did Jiwnani and colleagues1 close the book on nerve-sparing thoracotomy? Not yet. Clearly, there was little difference in outcomes between the control and experimental groups. This well-controlled and carefully analyzed study should encourage us to keep searching.

References