

## Editorial on pain following thoracic surgery

Jimmy Holm<sup>1</sup>, Peter B. Licht<sup>2</sup>

<sup>1</sup>Department of Anaesthesiology and Intensive Care, <sup>2</sup>Department of Cardiothoracic Surgery, Odense University Hospital, Odense, Denmark

Correspondence to: Peter B. Licht, MD, PhD. Department of Cardiothoracic Surgery, Odense University Hospital, Sdr. Boulevard 29, 5000 Odense, Denmark. Email: Peter.Licht@rsyd.dk.

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Chronic pain is a frequent and important complication to thoracic surgery (1,2). The cause of the pain is still not fully uncovered as damage to nerves can explain some but not all of the cases. Identification of possible risk factors would improve our understanding of this debilitating condition.

In a recently published study, Bayman *et al.* (3) investigated possible risk factors for developing chronic pain after thoracic surgery in a prospective observational study. They performed a comprehensive set of psychosocial tests, including assessment of anxiety, depression, pain catastrophizing and posttraumatic stress disorder in an attempt to assess preoperative psychosocial factors and their impact on the development of chronic pain following thoracic surgery. The two main findings of the study were that neither “surgical approach” (thoracotomy or VATS) nor any of the psychosocial parameters tested had any impact on the risk of developing chronic pain.

Lack of correlation between patients’ psychosocial conditions and the risk of developing chronic pain after thoracotomy has been shown in previous studies (4,5), but Bayman *et al.* now demonstrate that this is similar for VATS. Although different psychosocial measures such as catastrophizing, anxiety and depression have been associated with chronic postoperative pain in general (6,7) only few studies have investigated this association in thoracic surgery. On the other hand, readers should be cautious about these conclusions because of methodological concerns. There are obvious problems with selection bias of both patients and surgeons in the study, and certainly there is a major problem regarding interpretation of chronic pain development when postoperative pain management

differed between the two groups. Thus, patients underwent a broad range of procedures from a simple wedge resection to a pneumonectomy, which are not accounted for and disease stages for lung cancers were not specified and are likely different between patients who underwent VATS and thoracotomy. Two surgeons performed the majority of procedures (74%), and the surgical approach used was determined by “usual practice”. There is no information regarding distribution of thoracotomies and VATS among the different surgeons. Finally, and most importantly, postoperative pain management differed between the two groups: Patient-controlled analgesia with opioids was used following VATS and thoracic epidural analgesia was used exclusively following thoracotomy, which makes any meaningful comparison of chronic pain after surgery very difficult if not impossible. Unfortunately, due to these limitations the present study does not add any compelling new information.

The finding that chronic pain following thoracic surgery is common is in line with several previous studies of both thoracotomy and VATS (8,9). Major thoracic surgery is inevitably associated with some degree of postoperative discomfort regardless of analgesia used. Even with epidural analgesia it has been shown that a substantial proportion of patients will experience moderate-to-severe pain in the days succeeding surgery regardless of surgical approach by thoracotomy or as VATS (10). Postoperative pain after thoracic surgery deserves greater attention. If not solely because of a desire to relieve discomfort in the period following surgery, then in an effort to minimize the risk of development of chronic pain in the months and years

afterwards. In an effort to understand what may predispose certain people to experience postsurgical pain, investigators' interest has increasingly been turned towards the potential role of psychosocial variables as predictors of acute postsurgical pain and the development of chronic pain after surgery (11). The few studies that have been published (4,12,13), supports the findings of Bayman *et al.* but larger studies are warranted to reach a final conclusion. A more aggressive approach to pain management and multimodal analgesia is warranted and further studies are still needed.

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### Footnote

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

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