



May fascial blocks reduce chronic pain in Uniportal-VATS? Comment on “Uniportal video-assisted thoracic surgery versus open thoracotomy for chronic pain after surgery: a prospective cohort study”

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To the Editor:

We were very interested in the manuscript by Gu Y. et al. [1] titled “Uniportal Video-Assisted Thoracic Surgery Versus Open Thoracotomy for Chronic Pain After Surgery: A Prospective Cohort Study,” which demonstrated that Uniportal-VATS (U-VATS) is associated with a lower incidence of chronic pain after thoracic surgery (CPTS) compared to open thoracotomy (OT). The study highlighted that U-VATS offers benefits that extend beyond the immediate post-operative period, reducing both the intensity of acute post-operative pain and the incidence of CPTS.

Our team has been focused on this topic since we began performing U-VATS at our center in 2016 [2]. Over the years, we have worked to enhance U-VATS benefits on post-operative pain through improved analgesic protocols, including fascial blocks.

In Gu’s study [1], all patients received intravenous analgesia via an infusion pump (sufentanil, flurbiprofen, and ondansetron), but peripheral nerve blocks were not routinely performed. The study found significantly less severe acute pain after U-VATS compared to OT, which aligns with our

recent findings [3] comparing post-operative outcomes of U-VATS versus OT esophagectomy. Specifically, our study recorded lower pain levels (VAS scale) on the first post-operative day in the U-VATS group (1.89 ± 1.60) compared to the OT group (4.68 ± 2.91), with a p -value < 0.001 . Both groups received intercostal nerve blocks at the end of surgery, administered by the surgeon with 4 mL of 0.5% ropivacaine injected into the intercostal spaces (III–VII), and were supplemented with postoperative intravenous tramadol (400 mg/48 h) via an elastomeric pump.

Gu et al. [1] reported a lower incidence of CPTS three months after surgery in the U-VATS group (63.4% vs. 80.1%, $p < 0.001$), with reduced severity ($p = 0.007$) and a decrease in neuropathic pain ($p = 0.014$). This benefit appears specific to U-VATS, as multiportal-VATS seems to be comparable to OT in terms of CPTS effectiveness [1]. Our previous study comparing U-VATS with multiportal approaches for pneumothorax treatment corroborates this, showing a shorter duration of postoperative pain (2.50 ± 1.20 vs. 14.82 ± 37.41 days, $p < 0.001$), lower painkiller consumption (0.75 ± 1.06 vs. 7.53 ± 3.96 days, $p = 0.001$), and fewer cases of chronic paresthesia (0 vs. 0.52 ± 0.66 , $p < 0.001$) and chronic neuralgia (0 vs. 0.43 ± 0.59 , $p < 0.001$) in U-VATS group [4].

Among the risk factors for CPTS identified by the authors [1]—such as OT incision, inadequately managed acute pain, lung surgery, and nocturnal surgery—we believe that managing acute post-operative pain is particularly critical, as it is the only modifiable factor. Therefore, we have focused on refining our analgesic protocols in thoracic surgery, particularly in U-VATS, to identify the optimal block.

We have found that continuous erector spinae plane block (c-ESPB), continuous serratus anterior plane block

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(c-SAPB), and intercostal nerve block (ICBN) are effective for U-VATS, each offering specific benefits for reducing acute pain and analgesic drug consumption. Notably, in our series, patients who received c-SAPB, c-ESPB, or ICBN after U-VATS reported lower levels of both static and dynamic pain compared to those documented by Gu et al. [1]. Furthermore, the incidence of chronic pain at three months was zero in our study. This supports the authors' conclusion that inadequate management of acute post-operative pain is a risk factor for CPTS [1], and emphasizes the importance of peripheral nerve blocks in improving outcomes.

Elder age and longer surgery duration may also contribute to CPTS, as indicated by the univariable analysis in the study [1], though these factors were not confirmed in the multivariable analysis. We agree with the authors that age may link a spurious association with CPTS, as also emerged by our prospective analysis [5], where elder age was confirmed only to be a predictor of higher morphine request as rescue therapy post-surgery.

Once again, we congratulate the authors on their findings and strongly advocate for further researches to identify the most effective analgesic protocols in U-VATS. This will help to enhance both the immediate and long-term post-operative benefits of this surgical approach, particularly in terms of pain reduction and rapid patient recovery.

Declarations

Conflict of interest The authors have no conflict of interest.

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