

## Correspondence

### Wound infiltration with bupivacaine 0.5% with or without adrenaline does not decrease pain after thyroidectomy. A randomized controlled study

To the Editor

Control of postoperative pain is one of the most important concerns for patients and surgeons. Amazingly, several reports,<sup>1,2</sup> as the paper of Mismar et al<sup>1</sup> in this issue of Saudi Medical Journal,<sup>3</sup> focused on pain control after thyroidectomy, a procedure that is usually less prone to severe postoperative pain than, for instance, abdominal surgery. Indeed, the recently introduced mini-invasive approach in thyroid surgery has pain reduction as one of the main targets, but the problem does not seem to be solved, considering that spraying of bupivacaine has been suggested after robotic thyroidectomy with a bilateral axillo-breast approach.<sup>4</sup>

The clinical importance of this pain reduction is likely to be small and, as previously observed, is limited to a short period after surgery.<sup>5</sup> Looking at the literature, there is very low quality evidence that infiltration reduces pain, due to the controversial results in randomized studies. The study of Mismar seems to confirm that subcutaneous bupivacaine injection, with or without adrenaline, does not have any advantage in reducing postoperative pain. However, several variables may play a role in these conflicting results, like length of incision, thyroid size and especially the amount, concentration and type of anesthetic drugs, which are not always and uniformly described in the literature. To better clarify this issue, further randomized clinical trials at low risk of systematic and random errors are necessary. Such trials should include not only pain evaluation but likely also quality of life, at least in the short term. The new advent of the mini-invasive approach may further make matters complicated.

**Sandro Contini**  
Department of Surgical Sciences  
Parma University  
Parma PR, Italy

ORCID ID: [orcid.org/0000-0001-7252-1321](https://orcid.org/0000-0001-7252-1321)

#### Reply from the Author

There are many reports in literature investigating the effect of local infiltration on abdominal, thoracic and other types of surgery with inconclusive results,<sup>6,7</sup> Prof. Contini referred to our own study carried out in

cooperation with the University of Pisa to demonstrate that the clinical importance of local infiltration in pain reduction after thyroidectomy is likely to be small and limited to a short period after surgery and we agree with that.<sup>5</sup> We think he missed the key part of the new study; whether adrenaline can improve the analgesic effect of wound infiltration with Bupivacaine after thyroidectomy or not. Up to the best of our knowledge there are no similar reports in the literature.

In our study, we tried to provide comparable samples by following strict inclusion criteria where big goiters with retrosternal extension, minimally invasive and re-do surgery were excluded from the study. A standardized technique including type of incision, flaps, dissection and skin closure was adopted. The infiltration was also standardized including the type, concentration, amount, and timing as demonstrated in the methodology section.

**Ayman Mismar**  
Department of General Surgery  
University of Jordan  
Amman, Jordan

#### References

1. Teksoz S, Arıkan AE, Soylu S, Erbabacan SE, Ozcan M, Bukey Y. Bupivacaine application reduces post thyroidectomy pain: Cerrahpasa experience. *Gland Surg* 2016; 5: 565-570.
2. Dumlu EG, Tokaç M, Öcal H, Durak D, Kara H, Kılıç M, Yalçın A. Local bupivacaine for postoperative pain management in thyroidectomized patients: A prospective and controlled clinical study. *Ulus Cerrahi Derg* 2015; 32: 173-177.
3. Mismar AA, Mahseeri MI, Al-Ghazawi MA, Obeidat FW, Albsoul MA, Al-Qudah MS, Albsoul NM. Wound infiltration with bupivacaine 0.5% with or without adrenaline does not decrease pain after thyroidectomy. *Saudi Med J* 2017; 38: 994-999.
4. Ryu JH, Yom CK, Kwon H, Kim KH, Choi JY, Jung JW, Kim SW, Oh AY. A prospective, randomized, controlled trial of the postoperative analgesic effects of spraying 0.25 % levobupivacaine after bilateral axillo-breast approach robotic thyroidectomy. *Surg Endosc* 2015; 29: 163-169.
5. Ayman M, Materazzi G, Bericotti M, Rago R, Nidal Y, Miccoli P. Bupivacaine 0.5% versus ropivacaine 0.75% wound infiltration to decrease postoperative pain in total thyroidectomy, a prospective controlled study. *Minerva Chir* 2012; 67: 511-516.
6. Ventham NT, Hughes M, O'Neill S, Johns N, Brady RR, Wigmore SJ. Systematic review and meta-analysis of continuous local anaesthetic wound infiltration versus epidural analgesia for postoperative pain following abdominal surgery. *Br J Surg* 2013; 100: 1280-1289.
7. Beaussier M, Aissou M. Single-shot wound infiltration for postoperative analgesia. Neurosurgery, ENT, thoracic abdominal and perineal surgery. *Ann Fr Anesth Reanim* 2009; 28: e163-e173.