FIGURE Réponses musculaires à l'adducteur du pouce (AP) et à l'orbiculaire de l'œil (OO) après bolus itératifs d'atracurium ( ) chez un patient myasthénique.

Au quatrième jour postopératoire d'une colectomie, le patient avait développé une insuffisance respiratoire d'origine musculaire traitée par néostigmine ($0,4 \text{ mg} \cdot \text{h}^{-1}$) et réintroduction du traitement oral (pyridostigmine + prednisone). Trois jours plus tard, il présentait une occlusion abdominale nécessitant une chirurgie.

Un monitoring neuromusculaire était installé à l'adducteur du pouce (AP) et à l'orbiculaire de l'œil (OO). Avant l'induction, le rapport T_4/T_1 à l'AP était supérieur à 0,9. L'anesthésie était induite par thiopental-succinylcholine ($1 \text{ mg} \cdot \text{kg}^{-1}$) puis maintenue par sevoflurane et sufentanil. Après récupération du bloc dépolarisant, des bolus itératifs d'atracurium (5 mg) étaient injectés pour obtenir un bloc maximal ($T_1/T_0=5\%$). Les sensibilités à l'atracurium de l'AP et de l'OO étaient établies (Figure). La curarisation était maintenue au niveau maximal jusqu'à la fin de la chirurgie. Le patient était extubé éveillé après récupération spontanée d'un $T_4/T_1 > 0,9$.

Une instabilité du statut musculaire peut apparaître lors de l'arrêt du traitement chez un myasthénique notamment après chirurgie abdominale. Dans ce contexte, il faut recommander la triple association suivante : titration des curares - double monitoring à l'AP et à l'OO, qui permet de définir le muscle le plus sensible aux myorelaxants¹ (AP pour une myasthénie sévère, OO pour une myasthénie responsable de diplopie uniquement) - mesure du T_4/T_1 à l'AP avant l'anesthésie, qui s'il est supérieur à 0,9 indique une sensibilité quasi normale aux curares non dépolarisants.²

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Références

- 1 Itoh H, Shibata K, Yoshida M, Yamamoto K. Neuromuscular monitoring at the orbicularis oculi may overestimate the blockade in myasthenic patients. *Anesthesiology* 2000; 93: 1194-7.
- 2 Mann R, Blobner M, Jelen-Esselborn S, Busley R, Werner C. Preanesthetic train-of-four fade predicts the atracurium requirement of myasthenia gravis patients. *Anesthesiology* 2000; 93: 346-50.

Thoracic epidural catheter placement via the caudal approach under electrocardiographic guidance

To the Editor:

We have developed a technique of using electrocardiography (ECG) to facilitate proper placement of a thoracic epidural catheter via the caudal route.¹

After induction of general anesthesia, an 18 G *iv* catheter is inserted into the caudal space to allow threading of a 20-G epidural catheter with Johans ECG adapter assembly (Product # TS-05430-P, epidural positioning system using Tsui test, Arrow International Inc., Reading, USA). The ECG tracings via the epidural as well as the surface ECG at the desired spinal level are recorded simultaneously using a modified two channel 5 lead ECG system. The surface ECG (lead II) is first recorded by connecting the right-arm lead to a skin electrode in the patient's back in the midline, at the desired spinal level. The left-arm lead is then connected to the metal hub of the epidural catheter assembly. A satisfactory tracing (lead III) is obtained when the epidural catheter is filled with saline solution, as the catheter tip becomes a unipolar ECG electrode. The catheter is advanced from the caudal space until the tip reaches the desired level, as demonstrated by the configuration of the ECG tracing via epidural catheter matching the surface ECG tracing at the desired level.

Since this technique does not directly confirm that the catheter is in the epidural space and only provides information about the position of the catheter in relation to the heart, it is assumed that the ease with which the epidural catheter is advanced cranially indicates that it is in the epidural space and not within the subcutaneous tissues or subdural space.

FIGURE Left, A 20-G epidural catheter with Johans electrocardiography (ECG) adapter assembly. Black arrow shows the black lead of the ECG monitor was connected to the metal hub of ECG adapter. Right, ECG tracings in a five-month old infant: catheter was advanced from the caudal space (top) until the tip reached the desired spinal T5 level (bottom) as demonstrated by the matching QRS complex of ECG tracings obtained via the surface T5 skin electrode and the epidural catheter. The tip of the catheter was later confirmed to be at the T₄₋₅ interspace by chest *x-ray*.

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Reference

- 1 Tsui BC Thoracic epidural catheter placement via caudal approach under electrocardiographic guidance. *Reg Anesth Pain Med* 2001; 26: 138 (abstract).

Techniques for rigid stylet use during endotracheal intubation

To the Editor:

Use of a rigid stylet deserves an articulate Special Article such as written by Dr. Stasiuk.¹ We are disappointed, however, that our publication was not referenced.² This short letter discussed rigid stylet technique and has two similar photographs of single-handed techniques mentioned by Dr. Stasiuk. We specifically discuss two alternative methods of threading the endotracheal tube (ETT) off of the stylet. We also discuss the importance of a suitable lubricant (such as lidocaine paste) for this manoeuvre. Finally, it has a photograph illustrating how slight withdrawal of the rigid stylet moves the tip of the ETT anteriorly. We

believe that this anterior movement of the ETT tip is what makes the rigid stylet so valuable when the glottis cannot be viewed. Anterior movement of the tip does not occur when the stylet and ETT are advanced as a unit.

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References

- 1 Stasiuk RBP. Improving styletting oral tracheal intubation: rational use of the OTSU. *Can J Anesth* 2001; 48: 911–8.
- 2 Stix MS, Mancini E. How a rigid stylet can make an endotracheal tube move. *Anesth Analg* 2000; 90: 1008.

Improving styletting oral tracheal intubation: rational use of the OTSU

To the Editor:

How fortuitous that Dr. Stasiuk's article on the "rational use of the 'oral tracheal stylet unit' (OTSU)" appears on page 911 of the October issue of the *Canadian Journal of Anesthesia* for it is clearly a cry for help! In the operating rooms (OR) at the Moncton Hospital, rather than having to ensure that my 'OTSU' is configured as in Figures 1 and 2 and then having to decide whether to hold it as in Figures 3 or 4, I simply ask my anesthesia assistant to remove the stylet. I strongly suspect that the real problem that Dr. Stasiuk is facing is a lack of a competent anesthesia assistant. If we in the rest of Canada made it a requirement that a competent anesthesia assistant be available at all times in every OR (as has been the standard enjoyed for years by our Québécois colleagues, who have a respiratory therapist to assist them in each OR), then Dr. Stasiuk would not need to figure out ways to do things on his own and publication of such articles would not be deemed necessary.

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Reference

- 1 Stasiuk RBP. Improving styletting oral tracheal intubation: rational use of the OTSU. *Can J Anesth* 2001; 48: 911–8.