

IBUPROFEN VERSUS KETOROLAC IN VIDEO-ASSISTED THORACOSCOPIC PULMONARY LOBECTOMY

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Background

In resective lung surgery, a multimodal management of postoperative pain is recommended (1). In this setting, the literature on ibuprofen – in the last years made available in an IV formulation - and its comparison with ketorolac, is limited.

This prospective study aims to investigate whether IV ibuprofen is comparable to ketorolac in postoperative analgesia after video-assisted thoracoscopic pulmonary lobectomy, and whether it is associated with a reduction in adverse events.

Methods

49 patients were enrolled, intraoperatively managed with target-control infusion-site effector sufentanil (0.15-0.20 ng/ml) plus propofol (3.5-4.5 mcg/ml), and intercostal nerves block (levobupivacaine 0.5% 100 mg and dexamethasone 4 mg) performed by the surgeon at the beginning of the procedure. Upon discontinuation of sufentanil, a morphine 0.05 mg/kg starter bolus was performed. 19 patients received intravenous postoperative analgesia with ketorolac 30 mg TID, in combination with paracetamol 1 g TID and morphine rescue dose of 5 mg for NRS > 3. The remaining 30 received ibuprofen IV 400 mg TID instead of ketorolac. Data were collected on: age; anthropometric measurements; ASA; NRS on leaving the operating room and recovery room, and at 24-48-72 h; rescue medication; blood loss from chest drain on leaving the OR and RR, and at 24-48-72 h; start of physiotherapy; length of stay.

Results

Data analysis shows superiority of ibuprofen on NRS at 24 h (p-value 0.041; Mann-Whiley test = 0.023) along with a reduction in drainage at 24 h (p-value= 0.01; Mann-Whiley test = 0.01). In contrast, there were no significant differences on the other measures: pain, length of stay, and demand for rescue medication.

Conclusions

Ibuprofen proved to be comparable to ketorolac, and even more effective at 24 post-surgery; it also showed a better safety profile and the possibility to extend treatment, in line with AIFA indications, up to 72 h (2).

References

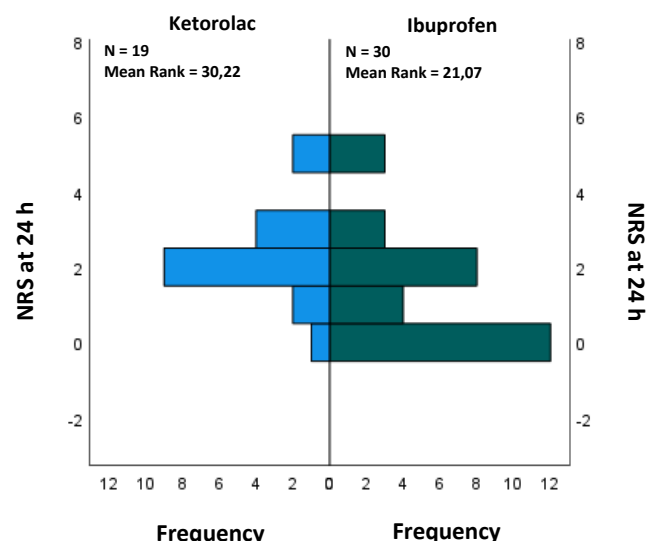
1. Umari M, Carpanese V, Moro V, Baldo G, Addesa S, Lena E, Lovadina S, Lucangelo U. Postoperative analgesia after pulmonary resection with a focus on video-assisted thoracoscopic surgery. *Eur J Cardiothorac Surg*. 2018 May 1;3(5):932-938.
2. <https://www.aifa.gov.it/web/guest/trova-farmaco> for data sheet of ibuprofen and ketorolac

Comparison of NRS in ketorolac group vs ibuprofen group (descriptive)

	0=ketorolac 1=ibuprofen	N = 49	Average	Standard deviation	Standard error
NRS leaving OR	0	19	,26	,562	,129
NRS leaving RR	1	30	,40	1,037	,189
NRS at 12 h	0	19	,42	,507	,116
NRS at 12 h	1	30	,40	,563	,103
NRS at 24 h	0	19	1,00	1,054	,242
NRS at 24 h	1	30	1,43	1,813	,331
NRS at 48 h	0	19	2,33	1,237	,291
NRS at 48 h	1	30	1,47	1,592	,291
NRS at 72 h	0	19	1,16	1,803	,414
NRS at 72 h	1	30	1,33	1,446	,264
NRS at 72 h	0	19	,79	1,032	,237
NRS at 72 h	1	30	,97	1,450	,265

Abbreviations: OR, Operating Room; RR, Recovery Room

Mann–Whitney U test for independent samples



Mann–Whitney U test for independent samples

