

Neuromuscular residual blockade incidence and implications in quality of recovery after neoplastic surgery

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Background and Goal of Study

Residual neuromuscular block (RNMB) is an important postoperative complication associated with the use of neuromuscular blocking drugs. The aim of this study was to access the incidence of RNMB at Post Anaesthetic Care Unit (PACU) admission and its association with critical respiratory events (CRE) and quality of recovery.

Materials and Methods

Observational prospective study

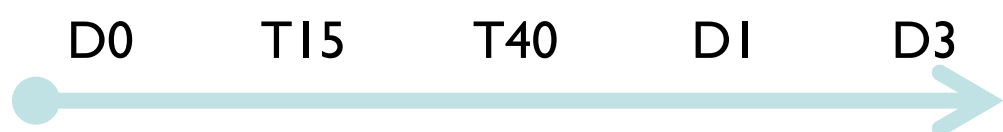
Inclusion criteria: adult patients undergoing curative neoplastic surgery.

Exclusion criteria: inability to give informed consent

Statistical analysis: The MannWhiney U test, Chisquare or Fisher's exact test were used for comparisons.

NMRB *Train-of-four (TOF) ratio < 0,9.*

Postoperative Quality Recovery Scale (PQRS)



Domains: physiologic (PD), nociceptive (ND), emotional (ED), cognitive (CD) and activities of daily living (AD).

Recovery: defined as the return to baseline values or better for all questions within each domain

Incomplete recovery: recovery in less than 2 domains at D1

CRE

- airway obstruction;
- mild, moderate or severe hypoxemia;
- respiratory failure;
- inability to breathe deeply;
- muscular weakness;
- Reintubation;

Results and Discussion

Total: 148



Graffic I. Incidence of NMRB.

CRE	NMRB	No NMRB	p
hypoxemia	32%	7%	<0,001 ^a
Inability to breathe deeply	86%	11%	<0,001 ^b
Weakness	88%	10%	<0,001 ^b
Total	61%	24%	0,001 ^a

Table I. NMRB and CRE.

	PQRS domains	NMRB	No NMRB	P
R I	T40 PD	100%	71%	0,004 ^b
	D1 PD	88%	64%	0,041 ^b
R	T15 ED	72%	29%	0,001 ^a
	T40 ED	83%	26%	0,001 ^a
	D1 ED	72%	33%	0,002 ^a
	D3 ED	78%	35%	0,001 ^a

Table.2 . NMRB and PQRS.

Length of stay	NMRB	No NMRB	P
PACU (min.), median	148	67	0,58 ^c
Hospital (days), median	7	6,5	0,61 ^c

Tabela 3. NMRB and implication on lehngh of stay in PACU and Hospital
Legenda: a – Chisquare test; b – Fisher's exact test; c – Mann-Whitney U test

Conclusion

RNMB occurred in 15,5% of the neoplastic patients at PACU admission and was associated with CRE. Accordingly, to PQRS, RNMB has an influence on early recovery.

References:

Fuchs-Buder T. et al, *Residual neuromuscular blockade: management and impact on postoperative pulmonary outcome, Current Opinion Anesthesiology 2016 Dec;29(6):662-667*