Impossible intubation : interest of superior laryngeal block

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Superior laryngeal block

Graph 1

Background :

Awake fibrotic intubation (AFOI) is the reference technique in case of planned impossible intubation but it is a source of discomfort for both patient and practitioner. It results in a difficult learning. Blocking the superior laryngeal nerve could assist with a successful attempt of AFOI and simplify the learning of this technique,

Goal of study :

This study aims at assessing the interest of the superior laryngeal nerve block (SLB) in realization of AFOI.

Materials and methods :

This prospective observationnal study concerns patients with impossible intubation criteria. The SLB was performed by bilateral infiltration of 1 ml of lidocaine 1% in contact with greater horn of the hyoid bone and in thyryoid membrane and 5 ml of lidocaine 1% in transtracheal. A dressing soaked with lidoaine was put in place.

A seadtion by intravenous remifentanil was associated. The main endpoint was the time to intubation. Secondary endpoints were success rate, number of attempts and adverse events : cough, spasm, suffocation, hypoxemia (table 1). Quantitative data are median (interquartiles).

Results :

From 5/1/2015 to 10/30/2016, 73 patients (12 to 88 years old, 64% of men) benefited from AFOI. The median age was 52 (34-64) years. 52% were ASA I and II, 40% were ASA III and IV, 4% ASA V. The difficult intubation criteria were : mouth opening under 3 cm (86%), a class of Mallampati 4 (81%). Median time to intubation was 213 (141-300) seconds (graph 1). The success rate was 100% of which 80% at the first attempt. 49% of AFOI were carried out by supervised novice operators.

Discussion :

The time is short, as it may exceed 260 seconds in some studies of ASA I and II patients (1). 44% of our patients are ASA III and up. To acquire the AFOI technique, it is recommended to do 10 intubations attempts under fibroscopy on patients under general anaesthesia (2). In our work, 49% of the operators are novices with no AFOI experience. Some authors describe up to 53% of coughing episodes which is twice what we observed (3) in our study.

Studies	Protocoles	Time to intubation	successfu l rate	Cough	désaturation	Success at first attempt	Operator experience	ASA
Langeron et al Anesth Analg 2001;108:536-43	Général anesthesia	110 (70-175)	92 %	53 %	10 %	71 %	Expert : 100%	-
Cheng et al. Chin Med J 2015;128:3143-8	Sédation + local anesthesia	260 +/- 60 s	-	100 %	12 %	-	-	I-II : 100 %
Our study 2016	Sédation + SLB	213 (141-300)	100 %	28 %	22 %	80 %	Expert : 51 % Novices : 49 %	I-II : 56 % ≥ II : 44 %

Table 1

Conclusion :

Superior laryngeal nerve block may facilitate AFOI. Not only it may provide better intubating conditions with less complications than the standard techniques but it may also improves the curve learning.

References :

1. Chinese medical journal 12.5.2015 vol 128 issue 23
2. Respiratory care 06.2014 vol. 59 No 6
3. Anesth Analg 2009; 536-43