

## DIFFICULT INTUBATION IN EMERGENCY SITUATIONS IN OBSTETRICS

**A. Cotelnic, O. Oriol, A. Zmeu, D. Sertinyan**

*Department of Anesthesiology and Intensive Care No 2,  
State University of Medicine and Pharmacy "Nicolae Testemitanu",  
Institute of Mother and Child, Republic of Moldova*

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### ВАЖКА ІНТУБАЦІЯ В ЕКСТРЕНИХ ВИПАДКАХ В АКУШЕРСТВІ

**А. Котельник, О. Орел, А. Змеу, Д. Сертинян**

Під «важкою інтубацією» розуміють таку клінічну ситуацію, при якій лікар анестезіолог-реаніматолог зазнав певних труднощів під час проведення 2-3 спроб інтубації та легеневої вентиляції, що зайняли в цілому від 5 до 10 хв. Важка інтубація у звичайній практиці зустрічається від 3 до 18%. У практиці акушерської анестезіології вона зустрічається в 7,9% і є причиною материнської смертності 41% випадків.

В данной статье мы рассмотрим альтернативные методы безопасной вентиляции легких при отсутствии фибробронхоскопа и видеоларингоскопа.

**Ключові слова:** важка інтубація, комбітуб, ларингеальна маска.

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Under the term of "difficult intubation" we understand a clinical situation in which an anesthesiologist has faced certain difficulties performing 2-3 attempts of intubation and lung ventilation that took between 5 to 10 minutes. Difficult intubation in everyday practice has an incidence of 3 to 18%. Among obstetrical patient's difficult intubation happens in 7.9% of cases and is the cause of maternal death in 41% of cases.

In this article we will discuss alternative methods of safe lung ventilation in the absence of a videolaryngoscope or a fiberoptic bronchoscope.

**Key word:** difficult intubation, combitube, laryngeal mask.

### Introduction

Correct evaluation of "prognostic tests" of difficult intubation is considered mandatory, must be performed by each anesthesiologist with mandatory notes in the pre-anesthetic consultation file or in the medical chart and serves as a prove of sufficient level of professional training. However, prognostic tests do not offer absolute guarantee of easy, difficult or impossible intubation. A real evaluation of difficult airway may be given only by the anesthesiologist during direct laryngoscopy. A visual mark of the air-

way during direct laryngoscopy may be assessed using the Cormack-Lehane classification in order to prevent complications during future surgical interventions.

However, cases of difficult intubation happen spontaneously among pregnant patients. The anesthesiologist must maintain patent airway and oxygenation by mask ventilation during induction and until the muscle-relaxants will act; must perform Sellick maneuver; must avoid mucous membrane trauma (hemorrhage will make the situation even more complicated); avoid prolonged attempts. It is also important to have a well-trained assistant.

During tracheal intubation there are three types of difficulties: impossibility to introduce the laryngoscope into the oral cavity, absence of vocal cords visualization and impossibility of maintaining adequate ventilation during intubation attempts. Intubation should be limited to two attempts during 1 minute, with 30 seconds of ventilation preceding each attempt.

Unfortunately, our clinic lacks equipment for difficult airway, also, during emergency situations, there is no time to wait for specialists with equipment to perform rigid or fiberoptic intubation.

We have assessed 14 cases of difficult intubation for C-sections, when there were no other options of other types of anesthesia.

In 10 cases there were 2 attempts of tracheal intubation by the means of direct laryngoscopy with Macintosh N4 blade, 2 unsuccessful attempts performed by 2 experienced specialists. In 6 cases a laryngeal mask was used, in 4 cases – combitube N4 was used.

In one case, after combitube insertion, saturation decreased to 90-91%. After repeated ventilation and adequate oxygenation, a laryngeal mask was inserted.

In 4 cases, after visual assessment of the upper airway (Mallampati 4) – a decision was made to proceed directly to laryngeal mask insertion, without any attempt of tracheal intubation. During the surgery, saturation was 98-99% with inspired oxygen fraction of 50%. At auscultation: there were symmetrical lung sounds. All babies were born with good Apgar score (8/8). At the end of surgery, after recovery of spontaneous breathing and muscular reflexes – laryngeal mask and cobitube were retrieved without any complications.

In the perioperative period no respiratory or neurological deficits / complications were detected. All patients were in good medical condition and were discharged on postoperative day 5 or 6.

#### **Conclusions:**

- In cases of impossible tracheal intubation by means of direct laryngoscopy and absence of fiberoptic equipment, an alternative method is the laryngeal mask or combitube insertion, if the anesthesiologist is familiar with them.
- Literature data states that neither laryngeal mask nor combitube protects 100% from gastric aspiration.
- According to all international recommendations, each operation block should be equipped with a fiberoptic bronchoscope or a videolaryngoscope, as well as with instrumentation of retrograde intubation of cricothyrotomy.

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