Endotracheal Intubation by Stylet and Tracheal Light-wand in Cervical Spondylosis Patient

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During general anaesthesia, to maintain adequate ventilation and oxygenation is the first crucial step. Tracheal tube is widely accepted as gold standard for airway management. Tracheal intubation under direct vision using a laryngoscope can be challenging and difficult even in experienced hands. This is especially true in unprepared patients or patients with cervical spine pathology. Because of these difficulties, alternative intubating techniques have been developed. Intubation using a lighted-stylet (lightwand) is one of many effective intubating techniques.

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Case report
A 64-year old woman was scheduled for 4th-5th lumbar laminectomy. She had medical history of ischaemic heart disease and hypertension for ten years and cervical spondylosis for one year. Preoperative evaluation showed sequestrated disc of 4th- 6th cervical levels with adjacent spinal cord compression. She was uneventfully underwent general anaesthesia for laparoscopic cholecystectomy two years ago.

She was premedicated with midazolam 7.5 mg orally on operative day morning. General anaesthesia was induced with fentanyl 50 μg, thiopentone 250 mg, and atracurium 40 mg as muscle relaxant for intubation. The trachea was successfully intubated at the first attempt.

รายงานผู้ป่วยวัยกลางอายุ 64 ปี ได้รับการวินิจฉัยว่าเป็น cervical spondylosis และ spinal stenosis ด้วยการแยกร่างของบริเวณกระดูกที่ 4 และ 5 ผู้ป่วยสามารถใส่ท่อหลอดคอได้โดยใช้ stylet และ lightwand ได้อย่างรวดเร็วช่วยศักย์สร้างชีวต่างในท่อหลอดคอก่อนที่จะมีการเข้ามาช่วยท่อหลอดคอด้วยวิธีการที่ใช้ lightwand เป็นการสนับสนุนให้ท่อหลอดคอสัมผัสที่มีประสิทธิภาพ และปลอดภัยส่วนผู้ป่วยประสบการณ์
by using stylet and tracheal lightwand within 20 seconds including confirmation of tracheal tube's position without difficulty. The correct position of endotracheal tube was confirmed by equally bilateral breath sounds, chest expansions and ETCO₂. The first author has been used lighted-stylet successfully in 50 patients before, so this technique was chosen for this patient. Anaesthesia was maintained with 66% nitrous oxide in oxygen and isoflurane. Muscle relaxation was maintained with atracurium. Haemodynamic status was well controlled. The total laminectomy of 4th lumbar and partial laminectomy of 5th lumbar body was performed for two hours. The patient was extubated and observed for hemodynamic monitoring in ICU for three days and discharged to ward later on without any sequale.

Discussion

This patient had cervical spine pathology which was one of many difficult intubating conditions due to head and neck limitation. Intubation can be successfully done by using many alternative techniques such as awakened intubation, fibreoptic laryngoscope. Transillumination of the soft tissue of the neck using a lighted-stylet (lightwand)¹⁻⁵ is an effective technique because it can be performed in neutral position of neck and head. The intubation by Trachlight⁶ (Figure 1) was planned for this patient. It consists of three parts: a reusable handle, a flexible wand and a stiff retractable stylet with alkaline batteries. The light is bright with minimal heat production (a maximum surface temperature of approximately 60°C) after 30 second illumination, the light bulb blinks off and on to further minimize heat production. The proper placement of the tip of tracheal tube (TT) in the trachea is observed by the well circumscribed glow of the transilluminated light at the level of the sternal notch. At the sternal notch, the tip of TT is about half-way between the vocal cords and the carina.⁶⁻⁷ The success of this tracheal intubation relied on the intubator's experience which has been done for 50 cases before. There was no side effect e.g. mucosal injury or minor bleeding in this patient. In general situation, the success of any intubation depends on proper patient selection, preparation, proper technique and regular practice. We recommend this equipment to be used as an airway adjunct in diffi-
cult airway management.

Conclusion

In conclusion, this case is an example of difficult intubation that can be successfully performed by using stylet and tracheal lightwand.

References

วิสัญญีสาร

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