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Airway Management of An Adult Patient with Meningomyelocele: Lateral Thinking - A Case Report

[1]Dr. Chandana Balaram, Consultant Anaesthesiologist, Bangalore Baptist Hospital, Hebbal, Bangalore, 560032

[2]Dr. Sharmila Narayan, Assistant Professor, Sri Siddhartha Institute of Medical Science & Research Centre, T Begur, Neramangala Taluk, Bangalore

[3]Dr. Vinutha V, Consultant Anaesthesiologist, Motherhood Hospital, Hebbal, Bangalore

Corresponding Author: Dr. Sharmila Narayan, Assistant Professor, Sri Siddhartha Institute of Medical Science & Research Centre, T Begur, Neramangala Taluk, Bangalore

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Abstract

Tracheal intubation, a critical art conventionally is done in supine position, any alteration from which is considered difficult due to its unfamiliarity. The airway of this case had to be managed in lateral position only as the patient had a long standing meningomyelocele of size 10*15cm in the lumbosacral region. The airway of such cases is usually managed with newer techniques like supraglottic devices, video laryngoscope, fibreoptic intubation. We are presenting this case as we used an age-old, conventional direct laryngoscopy technique to secure this difficult airway. We are writing this article to state that conventional techniques can be tried to secure airway when other airway parameters are normal.

Keywords: Airway management, Intubation, Meningomyelocele

Introduction

Endotracheal intubation an important skill must for all anaesthesiologists is conventionally performed in the supine position. Anything but supine, sniffing of morning air position is considered as an anticipated difficult airway because of the possibility of the laryngeal view being obscured or the ergonomically challenging position the anaesthesiologist must adapt[1]. Anaesthesiologists' prefer securing the airway in lateral position using e.g. intubating LMA, video laryngoscope, C-MAC video laryngoscope or fibreoptic[2]. It is also a known fact that the lateral position itself prevents the laryngeal structure from collapsing, a position recommended in adult basic life support[3]. The anaesthesiologists must also be aware of the airway management methods in this position to which he is

unfamiliar with and must not shy away from it when sophisticated management tools are unavailable.

Case report

A 68 year old female patient was posted for debridement, excision of multiple discharging sinuses and local flap cover for multiple sinuses and wound over the gluteal region in prone position. Patient was a known case of meningomyelocele of size 10*15 cm in the lumbosacral region and had undergone surgeries in the past under general anaesthesia and the details of airway management were not available. Patient denied of having any other comorbidities.

She was born out of a non-consanguineous marriage at term with a swelling in the back. The doctor then had advised her against surgery for the same and the swelling gradually grew in size with age. She developed bilateral lower limb deformity/foot drop started at the age of 6 years, associated with weakness and bladder incontinence which also progressed with age. The deformity progressed with complete loss of sensation of her legs by the age of 17 years. She was wheel chair bound for a period of 10 – 15 years and presently is bed ridden since almost 20 years of life, and positioned herself in the right lateral position because of the swelling.

On admission in our institute, we worked her up for the proposed surgery and a thorough pre-anaesthetic examination was performed. She was well built and nourished, conscious oriented and cooperative. Her airway examination was performed in right lateral position. Mouth opening 4 cm, flexion normal with restricted neck extension, thyromental distance was 6.8 cm and neck circumference was 36 cm. Temporo-mandibular joint indented one finger. She had no loose teeth/ dentures. Her systemic examination was normal and vitals stable. Bilateral lower limb power was 3/5 and sensation to touch and pain was preserved. Her blood work up, ECG, ECHO, chest x-ray were normal. MRI pelvis done showed spina bifida in the lumbosacral region with a large cyst measuring 9*14*15 cm which was communicating with the lumbar spinal canal.

Patient was accepted for the planned procedure under general anaesthesia. She was considered a difficult airway because of the restriction in positioning her for endotracheal intubation, even though her airway examination were all within normal. We prepared the OT with a difficult airway cart with C-Mac and Fibreoptic scope, bougie, stylet, different size tubes, oral airway.

Figure 1: image showing the huge meningomyelocele, patient positioned in lateral position and preoxygenation being done.

Patient was positioned in her most comfortable position that is her right lateral and the swelling was well supported. Patient was preoxygenated with 100% O2 for 5 mins. Premedicated with inj. Fentanyl 100 mcg and induced with inj. Propofol 80mg. Adequate bag and masked ventilation was confirmed and muscle relaxant inj. Atracurium 30 mg was given. Patient was intubated with direct laryngoscope Mackintosh blade size 3, which

was introduced from the right angle of the mouth and tongue displaced and larynx visualised which was Cormack Lehane grade was IIb. With rightward external manipulation of the airway the patient was intubated with a 7.5 mm cuffed endotracheal tubed and fixed at 18 cm. Patient was then positioned prone to facilitate the surgery after which we re-positioned her right lateral. She was extubated after adequate reversal with inj. Neostigmine 2.5 mg and inj. Glycopyrrolate 0.5 mg in right lateral position and shifted to recovery. The airway was secured in the first attempt without the use of airway aids and any untowardly events.

Discussion and conclusion

Endotracheal intubation is routinely performed in supine position, after which the position may be changed to facilitate the surgery. Intubation of patients in the lateral position is unconventional and is perceived difficult due to distortion of the airway and the possible need for the operator to adopt an ergonomically uncomfortable posture [4]. In some situations, it may be necessary to secure the airway when the patient is in the lateral position like in this case or to cope with a sudden accidental loss of airway during surgery and the anaethesiologist must not shy away from using the easily available methods to secure the airway [1]. It was found that the left lateral position deteriorated laryngoscopic views in 35% of their patients and there was dissociation between the quality of the laryngoscopic view and ease of tracheal intubation [5]. Right lateral position also is said to be difficult for intubation as the tongues falls down due to gravity and poses difficulty in being displaced. The ventilation in lateral position is part of basic life support training as it prevents airway collapse [3]. We did not find any difficulty in ventilating or intubating the patient in this position. There are studies that support successful airway management in lateral position with the laryngeal mask airway, intubating laryngeal mask airway (ILMA), with and without the aid of a light-wand, fibreoptic intubation and or video laryngoscopes which might not be available in peripheral set ups of developing nations. Not many opt for the use of direct laryngoscope when the airway is anything but normal and might differ the case because of lack of availability of equipments. We intubated in right lateral position as her airway examination parameters were grossly normal. There was no difficulty in laryngoscopy, tongue could be displaced easily, the laryngoscopy view was Cormack Lehane IIb. Acquiring an additional set of intubation skills using basic equipment such as the Macintosh laryngoscope or a bougie is always useful, especially when more sophisticated airway tools are unavailable [5]. Conventional laryngoscopy can be performed when the patient cannot be positioned in the sniffing of morning air position to secure the airway when the other airway parameters are normal. Intubation in nonconventional position can be included in the curriculum for trainee anaesthesiologists so they don't recede from managing a case which is strayed from the normal. Knowledge and skill of the accessible methods in the institute must be kept in mind and used when considered necessary. Unadventurous techniques can be tried to secure airway when other airway parameters are normal, under supervision and a supplementary skill can be added to our armamentarium.

References

1. Bhat R, Sanickop C, Patil M, Umrani V, Dhorigol M. Comparison of Macintosh laryngoscope and C-MAC video laryngoscope for intubation in lateral position. Journal of Anaesthesiology Clinical Pharmacology. 2015;31(2):226.

2. Komatsu R, Nagata O, Sessler D, Ozaki M. The Intubating Laryngeal Mask Airway Facilitates Tracheal Intubation in the Lateral Position. Anesthesia & Analgesia. 2004;:858-861.
3. Guidelines for cardiopulmonary resuscitation and emergency cardiac care. Emergency Cardiac Care Committee and Subcommittees, American Heart Association. Part II. Adult basic life support. JAMA: The Journal of the American Medical Association. 1992;268(16):2184-2198.
4. Goh S, Thong S, Chen Y, Kong A. Efficacy of intubation performed by trainees on patients in the lateral position. Singapore Medical Journal. 2016;57(09):503-506.
5. McCaul C, Harney D, Ryan M, Moran C, Kavanagh B, Boylan J. Airway Management in the Lateral Position: A Randomized Controlled Trial. Anesthesia & Analgesia. 2005;101(4):1221-1225.