

Emergency Tracheostomy in Scoliosis Patient : A Case Report

Mohammad Akheel¹, Mohammed Sheeba Kauser²

1- Consultant oral & maxillofacial surgeon, Registrar, Head & neck surgical Oncology, Curie Manavata cancer centre, Nashik, Maharashtra

2- Junior registrar, Department of Physiotherapy (Neuro) I.T.S paramedical College, Muraadnagar, U.P, India

Correspondence to:

Mohammad Akheel ,BDS (MDS)
4H, Block 5, VGN Iaparasiene, 4th Main road,
Nolambur, Mogappair west, Chennai, T.N., India
Contact Number: +91-08754689505
E-mail: drakheelomfs@gmail.com

Contact Us : editor@ijdmr.com
Submit Manuscript : submissions@ijdmr.com
www.ijdmr.com

ABSTRACT

Emergency tracheostomy in a scoliosis patient possesses a great challenge to a surgeon due to the deviated anatomy of trachea. This challenge increases further when the patient has head injury. The establishment of immediate ventilation and to maintain the patency of respiration is very important. Thereby the tracheotomy procedure must be carried out in less time and prevent complications which might be caused due to altered anatomy.

KEYWORDS: Scoliosis, Tracheostomy

INTRODUCTION

Scoliosis in adult patients is defined as a spinal deformity of more than ten degrees in the coronal plane. Scoliosis can develop from spinal degeneration which occurs due to the process of aging, which has been present since adolescence and has become more progressive and symptomatic as in adult period. The incidence of Scoliosis is approximately 4-8% of the adult population over the age of 18.^{1,2} It is also seen in age group over 60 years which is

which is estimated to affect 32% of the population exhibiting a mean Cobb angle of greater than 17 degrees.^{2,3} Because metabolic bone diseases such as Osteomalacia and osteoporosis are more common in female population, women are more likely to suffer from scoliosis than men.⁴ This case report is about emergency tracheotomy in scoliosis patient who suffered a head injury following a road traffic accident.

How to cite this article:

Akheel M, Kauser MS. Emergency Tracheostomy in Scoliosis Patient: A Case Report. Int J Dent Med Res 2014;1(2):39-41.

CASE REPORT

A 28 year old patient was brought to emergency department following a trauma. History revealed that patient was alleged to sustain a road traffic accident due to a hit by a car and was unconscious from 15 minutes till the time admission. There were no history of vomiting and epistaxis. On clinical examination Glasgow coma score was 6/15. There were multiple abrasions on right side of face, right thigh and fracture of mandible. Since the patient was unconscious, to maintain ventilation, oral intubation was done. CT scan was taken which revealed diffuse cerebral edema suggestive of diffuse axonal injury. Chest x ray was taken since there was every chance of tracheal midline shift since the patient was having scoliosis of spine (Figure No.1).

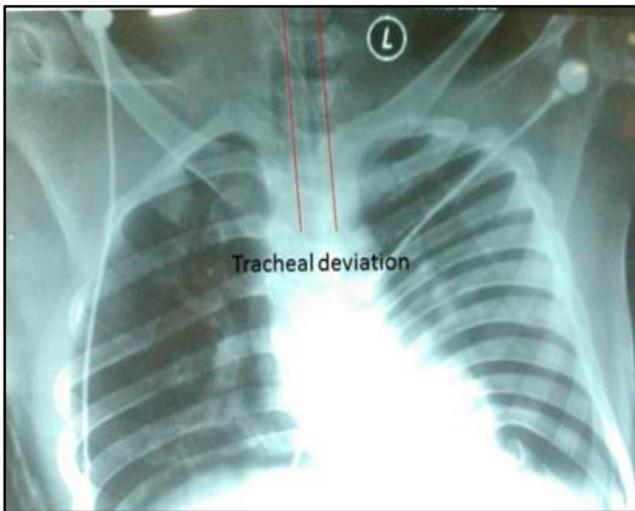


Figure No.1: Chest X ray revealed a mild deviation of the trachea to left side.

Emergency tracheotomy was planned with vertical skin incision. Dissection was done in layers. Trachea was found to be mildly shifted to left side as show in chest x ray. Pre-tracheal fascia was dissected and “Bjork U shaped” incision was placed on trachea and tracheostomy tube was placed(Figure No. 2,3). This procedure was carried out within 4.5 minutes.



Figure No.2: Placement of 1.5 cm skin incision and dissection of the layers.

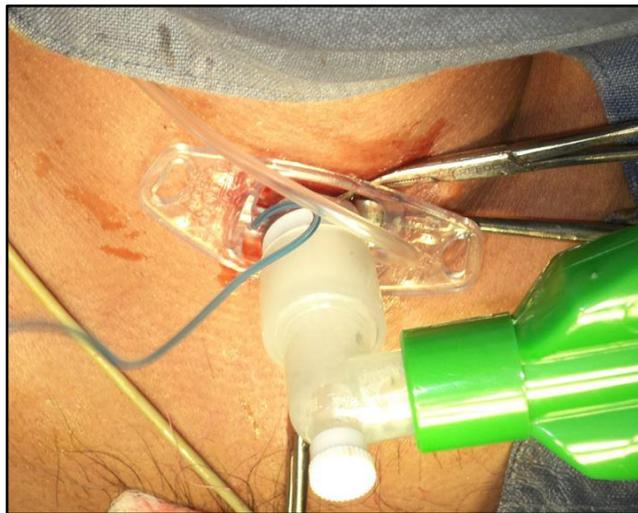


Figure No.3: Placement of Trachesotomy tube.

DISCUSSION

The common clinical features of scoliosis are lateral curves of the spine to either right or left, displacement of head the side in which the spine has curved, decreased forward flexion or lateral flexion, asymmetrical pelvic and shoulder position, and possible rib hump caused from the rotational deformity on the convex side.^{2,3} The most frequent problem in this patient is back pain which can be either due either due to the curve of the spine or at the

apex of the curve or from localized facet joint compression. Pain can also occur from back muscles during certain physical activities.^{4,5}

There can be radicular pain when standing or walking.^{5,6} This pain may be due to root compression or traction. There can also be difficulty in respiration although very rare. This might be due to distortion of the thoracic cavity may alter the position of the lungs and impair their function. Hence a scoliosis patient can cause rotation of the intra-thoracic trachea or bronchi, causing airway obstruction.^{7,8} In our case there was alteration in position of the trachea to left side but still the emergency tracheotomy was carried out in 4.5 minutes with no complications during the procedure.

CONCLUSION

Sufficient clinical experience must be required for the oral & maxillofacial surgeon to perform an emergency tracheotomy in scoliosis patient to establish immediate ventilation and maintain the patency of respiration.

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Source of Support: Nil
Conflict of Interest: Nil