

IMAGES

Tracheal Laceration Related to Endotracheal Intubation

Sun-Woo Kim, Gwang-Jin Oh, Si-Gyun Roh,
Nae-Ho Lee, Kyung-Moo Yang

Department of Plastic and Reconstructive Surgery, Chonbuk National University Medical School, Jeonju, Korea

Correspondence: Si-Gyun Roh

Department of Plastic and Reconstructive Surgery, Chonbuk National University Medical School, 20 Geonji-ro, Deokjin-gu, Jeonju 561-712, Korea
Tel: +82-63-250-1860, Fax: +82-63-250-1866, E-mail: psroh@jbnu.ac.kr

No potential conflict of interest relevant to this article was reported.

Received: 19 Jun 2013 • Revised: 3 Sep 2013 • Accepted: 4 Sep 2013
pISSN: 2234-6163 • eISSN: 2234-6171
<http://dx.doi.org/10.5999/aps.2014.41.2.182> • Arch Plast Surg 2014;41:182-183

Copyright © 2014 The Korean Society of Plastic and Reconstructive Surgeons
This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Tracheal laceration is a complication of general endotracheal anesthesia. Tracheal laceration during intubation is uncommon but fatal, and is difficult to recognize. Therefore, we have to pay considerable attention to the symptoms of tracheal laceration. We report a case of tracheal laceration after a simple plastic surgery operation.

A 44-year-old woman (height, 151 cm; weight, 55 kg) who had a nasal bone fracture was scheduled to undergo a closed reduction under general endotracheal anesthesia. She had no underlying disease.

However, 48 hours after the operation, she had dyspnea along with subcutaneous emphysema on her shoulder (Fig. 1). Diagnostic bronchoscopy revealed an approximately 1.5-cm-sized vertical tracheal laceration above the carina with split thickness (Fig. 2). She was started on antibiotics, O₂ inhalation, expectorants and non-per oral. The emphysema spontaneously resolved. The patient was discharged uneventfully on postoperative day 7.

Many operations in plastic surgery are simple and quick. However, general endotracheal intubation may be required for various reasons. Therefore, it is important for a plastic surgeon operating on the face to be familiar with the complications of intubation.

The incidence of postintubation tracheal laceration is reported to be approximately 1/20,000 [1]. Thus far, the cause of this laceration has not been definitely established, but the condition is generally attributed to pre-existing tracheal wall weakness, difficult intubation, emergency intubation, inexperience of the health professional, a double-lumen tube, and movement of the head and neck while the patient is intubated [2,3]. A higher incidence is observed in patients who have a chronic use of steroids, are of advanced age, are female [4] and/or have other inflammatory lesions of the trachea.

The common symptoms of postintubation tracheal laceration are chest discomfort, dyspnea, dysphonia, cough, hemoptysis, mediastinal emphysema, subcutaneous emphysema, and pneumothorax. The tracheal laceration is detected early when the laceration

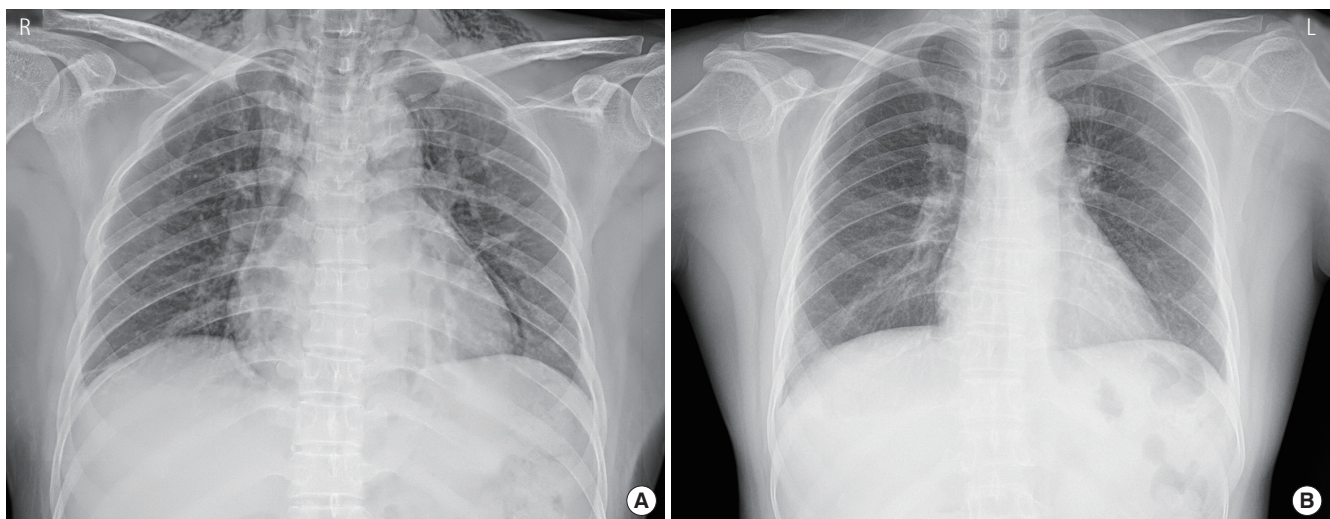


Fig. 1. (A) Chest X-ray 1 day after admission. Subcutaneous emphysema can be observed on both shoulders. (B) Chest X-ray 2 days after admission. The previous subcutaneous emphysema has disappeared.

is large and deep. In these cases, it is usually detected intraoperatively. However, smaller tears are detected during the postoperative period.

The exact site and size of the abovementioned laceration is determined by bronchoscopy; this knowledge helps in planning the therapeutic approach.

Nonoperative indications are stable vital signs, no difficulty ventilating while intubated or respiratory distress while extubated, no evidence of esophageal injury, minimal mediastinal fluid collection, nonprogressive pneumomediastinum or subcutaneous emphysema, and no signs of sepsis [5].

In our case, the tracheal laceration could have arisen after elective operation or uncomplicated intubation, as the patient had no underlying diseases. Her risk factors were only the head and neck surgery and her gender. These risk factors are common in patients who undergo operations in plastic surgery. We assume two possible causes in this case. First, potadine and bleeding could have irritated the trachea and triggered a cough and gag reflex. Secondly, repeated sterilization for reuse may have increased the stiffness of the intubation tube.

A plastic surgeon must be familiar with the causes and the symptoms of tracheal laceration. In particular, such a laceration could have occurred during a short operation such as a closed reduction of the nasal bone. For the prevention of tracheal laceration, we need to determine a patient's underlying disease. Further, plenty of irrigation is required for the removal of the potadine and blood before extubation.

References

1. Gomez-Caro Andres A, Moradiellos Diez FJ, Ausin Herrero P, et al. Successful conservative management in iatrogenic tracheobronchial injury. *Ann Thorac Surg* 2005;79:1872-8.
2. Harris R, Joseph A. Acute tracheal rupture related to endotracheal intubation: case report. *J Emerg Med* 2000;18:35-9.
3. Kaloud H, Smolle-Juettner FM, Prause G, et al. Iatrogenic ruptures of the tracheobronchial tree. *Chest* 1997;112:774-8.
4. Minambres E, Buron J, Ballesteros MA, et al. Tracheal rupture after endotracheal intubation: a literature systematic review. *Eur J Cardiothorac Surg* 2009;35:1056-62.
5. Ross HM, Grant FJ, Wilson RS, et al. Nonoperative management of tracheal laceration during endotracheal intubation. *Ann Thorac Surg* 1997;63:240-2.

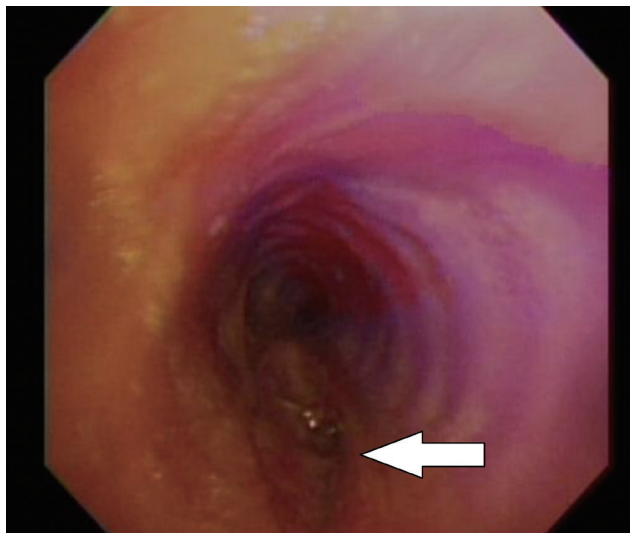


Fig. 2.

Diagnostic bronchoscopy. A lacerated wound (white arrow) can be observed above the carina. It is approximately 1.5 cm vertically and has split thickness.

Surgical Resection of Acquired Vulvar Lymphangioma Circumscriptum

Chan Kwon, Sang Hun Cho, Su Rak Eo

Department of Plastic and Reconstructive Surgery, Dongguk University School of Medicine, Goyang, Korea

Correspondence: Su Rak Eo

Department of Plastic and Reconstructive Surgery, Dongguk University Graduate School of Medicine, 27 Dongguk-ro, Ilsandong-gu, Goyang 410-773, Korea

Tel: +82-31-961-7330, FAX: +82-31-961-7347, E-mail: surakeo@yahoo.com

This article was presented as a poster at the 70th Congress of the Korean Society of Plastic and Reconstructive Surgery on November 9–11, 2012 in Seoul, Korea.

No potential conflict of interest relevant to this article was reported.

Received: 22 Jul 2013 • Revised: 5 Sep 2013 • Accepted: 20 Sep 2013
pISSN: 2234-6163 • eISSN: 2234-6171
<http://dx.doi.org/10.5999/aps.2014.41.2.183> • Arch Plast Surg 2014;41:183-186

Copyright © 2014 The Korean Society of Plastic and Reconstructive Surgeons
This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

The predominant types of lymphangioma are lymphangioma circumscriptum (LC), cavernous lymphangioma, cystic hygroma, and lymphangioendothelioma. These entities account for approximately 26% of benign vascular tumors in children but are rarer in adults [1]. LC is the most common form of cutaneous lymphangioma and is characterized by superficial lymphatic ducts protruding through the epidermis.