Asian Journal of Case Reports in Surgery

6(4): 10-13, 2021; Article no.AJCRS.64019

Hemithyroidectomy as a Remedy for an Unusual Complication of Percutaneous Tracheostomy

Mayilvaganan Sabaretnam[1*], Sarrah Idrees[1], D. Vnssvams Mahalakshmi[1], P. R. K. Bhargav[2], Aromal Chekavar[2], Sapana Bothra Jain [2] and A. K. Verma[1]

[1]Department of Endocrine Surgery, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Rae Bareilly Road, Lucknow- 226 014, India.
[2]Consultant Endocrine Surgeon, Alumni EndocrineSurgery SGPGIMS, India.

Authors' contributions

This work was carried out in collaboration among all authors. Authors MS and SI designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Authors DVM and PRKB managed the analyses of the study. Author SBJ managed the literature searches. All authors read and approved the final manuscript.

Article Information

Editor(s):
(1) Dr. Asmaa Fathi Moustafa Hamouda, Jazan University, Saudi Arabia.
Reviewers:
(1) Miguel Ernandes Neto, Universidade Estadual Paulista "Júlio de Mesquita Filho" UNESP, Brazil.
(2) Osman Ilkay Ozdamar, Istanbul Medeniyet University Goztepe Training and Research Osman Ilkay Ozdamar, Turkey.
Complete Peer review History:

Case Study

Received 10 November 2020
Accepted 16 January 2021
Published 01 February 2021

ABSTRACT

This Case emphasizes the need for thorough clinical examination before any invasive procedure like percutaneous tracheostomy to avoid unexpected complications. Percutaneous tracheostomy is a very safe procedure in critically ill patients. But any procedure can be fraught with complications. Early recognition of complication is the key to successful outcomes.

Keywords: Hemithyroidectomy; Percutaneous tracheostomy; endocrine surgery; clinical examination.

1. INTRODUCTION

Most of the invasive procedures are fraught with complications but the astute clinician should counsel the patient the risk of every complication but should not inculcate fear in the patient and relatives mind. The communication between the patient and caregiver is very vital. Good history taking skills and sincere examination cannot be substituted by investigations. Percutaneous

**Corresponding author: E-mail: drretnam@gmail.com;*

tracheostomy is a very safe procedure in critically ill patients [1-3]. Percutaneous tracheostomy is used as a weaning tool in Intensive Care Unit setting and the complication rates are less when performed by consultants compared with trainees. Bleeding is the most common complication which is usually minor one (25-100ml) and when compared to open tracheostomy bleeding is less common due to minor disruption of tissues [1-3]]The other complications of percutaneous tracheostomy during procedure include Para tracheal insertion, injury to anterior jugular vein, displacement of tube, hypoventilation, ventricular tachycardia and fatal pulmonary thromboembolism [3].

Massive hemorrhage during percutaneous tracheostomy due to thyroid tissue injury is an annoying complication which usually results in open surgery and if not tackled on time is associated with high mortality and we report an unusual complication of percutaneous tracheostomy which warranted an emergency Hemi thyroidectomy to control the haemorrhage.

2. CASE REPORT

63 yr old woman a known case Chronic obstructive pulmonary disease presented to a private hospital with respiratory distress, found to have Type 2 respiratory failure and was intubated. Weaning was tried and patient was extubated, but did not sustain extubation and she was reintubated. Percutaneous Tracheostomy was tried twice, but to no avail. Second attempt resulted in Hemorrhage, which was controlled with pressure dressings. Therefore, the patient was transferred to our centre for expert management. She was on ventilator support with full consciousness not requiring any inotropic support. A goitre was detected by ICU team and our evaluation was required.We found a multinodular goitre, bigger on the right side where the lower border was not palpable.We did examination of the neck and it revealed two incision both measuring 2 cms in length of previous percutaneous tracheostomy with the medial one discharging serosanginous fluid. She was investigated with thyroid function test and Contrast Enhanced CT scan which showed that she was hypothyroid and CECT confirmed Multinodular Goitre with right retrosternal extension and loss of tissue planes between the thyroid and strap muscles and as well as the strap and skin. She had sudden detoriation in the form of decrease in blood pressure and she required inotropic support. At this time, a tracheostomy was performed with the patient's free informed consent .In the intraoperative period, we found that there was bleeding from the lacerated RT lobe which was partially necrotic with hemorrhage (Fig.1). The Right lobe was enlarged and there was no access to trachea. Since there was bleeding, we resorted to emergency right hemithyroidectomy with tracheostomy. The retrosternal necrotic lobe was removed entirely through the transcervical route. Both parathyroid and recurrent laryngeal nerve were saved. We also found a laceration in the trachea due to previous percutaneous

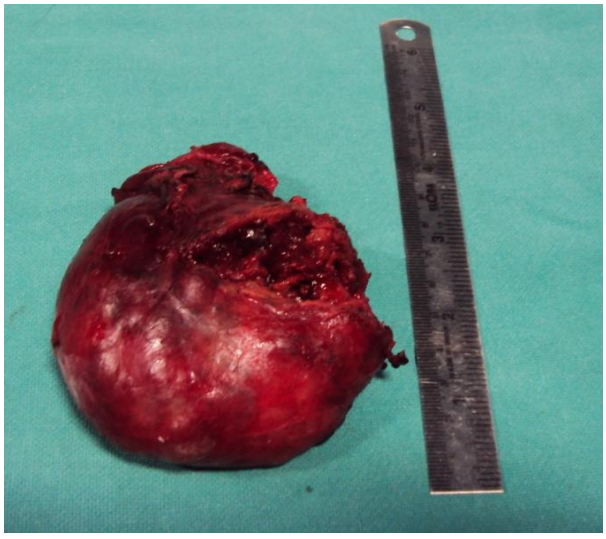

Fig. 1. Showing the necrotic lacerated right lobe

tracheostomy, which was sutured with prolene. The entire procedure took 30 minutes and was done with help of Ultrasonic dissector. Post operatively her ventilatory parameters improved, however she developed Ventilator associated pneumonia, recovered afterprolonged ICU stay. The histopathologic features were compatible with nodular colloid goitre with haemorrhage.

3. DISCUSSION

This Case emphasizes the need for thorough clinical examination before any invasive procedure like percutaneous tracheostomy. Percutaneous tracheostomy is a very safe procedure in critically ill patients [1,2,3]. Percutaneous tracheostomy is one of the least invasive available options to wean the patient from mechanical ventilation but still has some complications like all invasive procedures, most common being minimal bleeding. The single tapered dilator percutanuous tracheostomy is a very safe procedure with 96% of this procedure performed without any complications during the procedure [4]. However a randomized controlled study with longterm follow up showed no significant difference in moderate or severe complications.[5] In the same study 3 patients required surgical intervention for bleeding in the percutaneous tracheostomy group where as no patient in the open tracheostomy group.[5]

A meta analysis by Higgins et al comparing open versus percutaneous tracheostomy concluded that there is no clear difference between two procedures but they observed a trend towards fewer complications in percutaneous technique and also found they are cost effective and provided greater feasibility that they can be performed bed side and they were non surgical option [6]. Percutaneous tracheostomy can be safely done by intensivist, ENT surgeons and head neck surgeons with adequate training [7].

This case highlights the role of excision of swelling as a measure to control haemorrhage and also the role of secondary thyroidectomy for hemorrhage and access to trachea.The basic undergraduate teaching of good clinical history,general examination and thorough physical examination can prevent lot of complications arising out of invasive procedures.The complications should be explained to the patient and relatives immediately and remedial measures taken.These should be documented in the patient case file without any manipulations. The counseling of patients and relatives is an art and should be continuous and done with devotion.These can help the physician from undue litigations.We should never talk ill about our own collegues from different department to the patient or family members. The above mentioned facts can help the physician from becoming a second victim and shall allow to continue taking appropriate care of other patients.[8-11]

4. CONCLUSION

Any invasive procedure can be fraught with complications. Early recognition of complication and appropriate treatment are the key to successful outcome.The Treating Physician should counsel the patient and relatives adequately so there is a clear communication especially when interventions are planned. This can avoid litigations and also the patients and the relatives understand and act decorously when complications occur.

CONSENT AND ETHICAL APPROVAL

As per university standard guideline participant consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Dennis B.M, Eckert M.J, Gunter O.L, Morris J.A J.r, May A.K. Safety of bedside percutaneous tracheostomy in the critically ill: evaluation of more than 3,000 procedures. J Am Coll Surg. 2013;216(4):858-65.
DOI: 10.1016/j.jamcollsurg.2012.12.017 Epub 2013 Feb 8. PubMed PMID: 23403139.
2. Leinhardt D.J, Mughal M, Bowles B, Glew R, Kishen R, MacBeath J, Irving M. Appraisal of percutaneous tracheostomy. Br J Surg. 1992;79(3):255-8. PubMed PMID: 1555095.
3. Díaz Regañón G, Miñambres E, Ruiz A, Gonzalez Herrera S, Holanda Pena M, Lopez Espadas F. Safety and complications of percutaneous tracheostomy in a cohort of 800 mixed ICU patients. Anaesthesia. 2008;63(11):1198-203.

4. Dempsey GA, Grant CA, Jones TM. Percutaneous tracheostomy: a 6 yr prospective evaluation of the single tapered dilator technique. British journal of anaesthesia. 2010;105(6):782-8.
5. Silvester W, Goldsmith D, Uchino S, Bellomo R, Knight S, Seevanayagam S, Brazzale D, McMahon M, Buckmaster J, Hart G.K, Opdam H. Percutaneous versus surgical tracheostomy: a randomized controlled study with long-term follow-up. Critical care medicine. 2006;34(8):2145-52.
6. Higgins KM, Punthakee X. Meta analysis comparison of open versus percutaneous tracheostomy. The Laryngoscope. 2007;117(3):447-54.
7. Seder DB, Lee K, Rahman C, Rossan-Raghunath N, Fernandez L, Rincon F, Claassen J, Gordon E, Mayer SA, Badjatia N. Safety and feasibility of percutaneous tracheostomy performed by neurointensivists. Neurocritical care. 2009;10(3):264.
8. Vincent C. Understanding and responding to adverse events. N Engl J Med. 2003;348(11):1051-6.
9. Berger Z, Flickinger TE, Pfoh E, Martinez KA, Dy SM. Promoting engagement by patients and families to reduce adverse events in acute care settings: a systematic review. BMJ quality & safety. 2014;23(7):548-55.
10. Wu AW, Shapiro J, Harrison R, Scott SD, Connors C, Kenney L, Vanhaecht K. The impact of adverse events on clinicians: what's in a name?. Journal of patient safety. 2020;16(1):65-72.
11. Tumelty ME. The second victim: a contested term?. Journal of Patient Safety; 2020.

Peer-review history:
The peer review history for this paper can be accessed here: