

Subacute Thyroiditis Causing Thyrotoxic Crisis: A Case Report with Literature Review

Karwan Salam*, Ahmad Omer and Azhin Sleman

Sulamani Teaching Hospital, Sulaimani, Iraq

*Corresponding author: Salam K, Faculty, Sulamani Teaching Hospital, Sulaimani, Iraq, Tel: 009647717267454; E-mail: karwansalam492@gmail.com

Received date: Nov 07, 2016; Accepted date: Nov 22, 2016; Published date: Nov 29, 2016

Copyright: © 2016 Salam K, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Introduction: Subacute thyroiditis is a self-limited, inflammatory viral thyroid disease which presents with neck pain usually accompanied by systemic symptoms. On the other hand, thyroid storm is a clinical condition of severe sudden hyperthyroidism accompanied by physiologic de-compensation.

Case report: We presented a 29-year-old male with features of subacute thyroiditis and thyroid storm who is the third reported case managed by steroid, beta-blocker and analgesics.

Conclusion: Subacute thyroiditis may present with thyrotoxic crisis which respond dramatically to corticosteroid therapy.

Keywords: Case report; Subacute thyroiditis; Thyroid storm; Thyrotoxic crisis

Introduction

Pediatric penetrating neck traumatic has high morbidity and mortality rates [1]. Early diagnosis and management associates with improved outcomes and lowers its mortality [2]. Pediatric esophageal perforation is mostly due to iatrogenic instrumentation, foreign body impactions and rarely trauma. External penetrating trauma is infrequent. The cervical esophagus is injured in about 0.5% of penetrating neck injuries [3]. While no definite data available for pediatric cervical esophageal perforation in the current literature.

The signs and symptoms of early esophageal injury can be vague and nonspecific. The clinical presentation depends on the cause, location of the injury, size of the perforation, degree of contamination, length of time elapsed after injury, and presence of associated injury. Pain is the most common symptom (71%), followed by fever (51%), dyspnea (24%), and crepitus (22%) [4]. Signs and symptoms of upper air way obstruction are not recognized features of esophageal injury and whenever present they may indicate accompanying airway injury. Suspicion for the presence of these related injuries must be maintained [5].

We report a case of through and through cervical esophageal perforation accompanied by upper airway injury (aero-digestive tract injury) caused by shell injury in a 6 year old child.

Case Report

A 6 year old boy, victim of blast injury, was referred to our tertiary center 7 hours after the accident. Tracheostomy has been done there as an urgent procedure for relieving upper airway obstruction. He sustained sharp nail injury to the left side of the neck, in zone II and outlet was to the right side of the back over the scapula. He was conscious but in distress, dyspnic, there was swelling, tenderness with

subcutaneous emphysema all over the neck, more on left side. Chest examination showed decrease air entry on the right side. Abdominal and vascular examinations were unremarkable. His oxygen saturation (SPO₂) was 95% with 10 liter oxygen, pulse rate 130 beats/minute, Temperature 38.5°C, blood pressure 90/60 mmHg, respiratory rate 60 cycles/minutes. Focused assessment with sonography for trauma (FAST) showed mild right side pleural collection. Chest and neck radiographies showed right upper opacity and subcutaneous emphysema.

Computed Tomography (CT) scan was performed which revealed fractured right first rib with apical hematoma, and right side haemothorax with pneumomediastinum. Patient was transferred to Intensive Care Unit (ICU), sedation with 1 mg midazolam and 20 mcg fentanyl done, right side tube thoracostomy was inserted which drained 200 milliliters of blood. After stabilization of the condition, gastrograffin swallow was done which showed contrast leak at the mid-cervical esophagus (Figure 1).

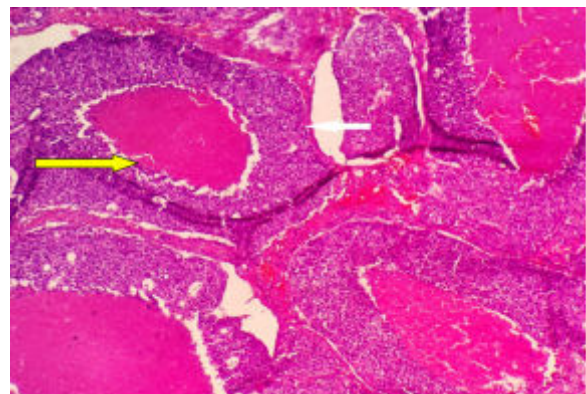


Figure 1: Contrast leak at the mid-cervical esophagus.

Under General anesthesia with nasogastric tube (NG), exploration was done via left longitudinal incision, ipsilateral internal jugular vein was found to be transected with through and through injury to the esophagus (Figure 2). The vein was ligated and the perforations in the esophagus was repaired using 3.0 vicryl in single layer, the right side perforation repaired from within the lumen and the left side perforation by 4 interrupted stiches.

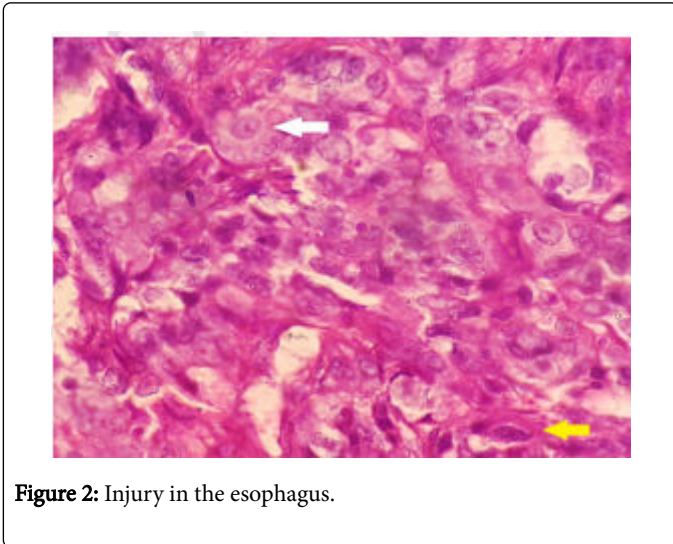


Figure 2: Injury in the esophagus.

Post operatively nasogastric feeding was started with antibiotic coverage. In the second post-operative day, the tracheostomy tube blocked, resulted in aspiration and desaturation. The child didn't respond to conservative management. Rigid bronchoscopy was performed. Pus was found filling both major bronchi, bronchial lavage was done. Saturation was improved. Few hours later the patient condition deteriorated again, saturation decreased, chest examination revealed bilateral coarse crackles and chest-X-ray showed pictures in favor of pulmonary edema. Supportive treatment started, patient put on Continuous Positive Airway Pressure (CPAP). He was weaned from CPAP 4 days later. Water soluble contrast study showed no leak at 7th postoperative day. Oral intake started. Tracheostomy tube was removed at 10th post-operative day and he was discharged from hospital a day later.

Discussion

Among all perforations of the alimentary tract, perforations of the esophagus are considered the most dire and life-threatening especially in children [2]. These perforations are: (i) more often iatrogenic, (ii) more likely to occur within the cervical esophagus, and (iii) not generally associated with an underlying malignancy. Chest pain, fever, tachypnea, and/or tachycardia with subcutaneous emphysema are common features which were found in our case too [2].

Esophageal perforation is a surgical emergency associated with high morbidity and mortality. Consensus regarding the appropriate management of this life-threatening condition is lacking [6]. The reported mortality from treated esophageal perforation is 10% to 25%, when therapy is initiated within 24 hours of perforation and it is 40% to 60% when the treatment is delayed. The reason for this multifold increase in mortality is due to the unique anatomical configuration and location of the esophagus, which allows bacteria and digestive enzymes easy access to the mediastinum, leading to the development of severe mediastinitis, empyema, sepsis, and multiple organ

dysfunction syndromes [7]. After immediate resuscitations and multisystem support, the patient taken to the operating room for cervical esophageal exploration.

The most common type of esophageal perforation is iatrogenic (approximately 60% in most series), usually as part of endoscopic therapy for stricture or achalasia. Barogenic or Boerhaave syndrome make up about 15% to 30% of cases, with trauma, foreign body ingestion, and operative injury accounting for most of the remaining benign perforations [8]. Penetrating injury as a causal factor is one of the rare causes, as it constitutes 5% of all penetrating cervical esophageal injuries [8]. To our knowledge, there is no reported case in literature about blast injuries causing through and through cervical esophageal perforation with minor upper airway trauma.

In our case, first complaint was confused with tracheal injury for which he underwent tracheostomy in the first hospital, and it was one of the morbidity factors as it is well known that tracheostomy tube occlusion is a common problem, occurring at a rate of up to 72% of premature and newborn children and, less frequently, at a rate of up to 14%, in children 1 year and older which also emphasizes the need for meticulous monitoring for pediatric patients to avoid such disastrous events. Our case developed suffocation and aspiration from tracheostomy tube obstruction despite been in Intensive Care Unit with continuous nursing care. We assessed the perforation by using water soluble contrast, as it has been recommended by others.

The shell tract in this patient was also unusual being its inlet from zone II on the left side, and its outlet from the right side of the back, causing fracture of the right first rib with neither neurological deficits nor vascular injuries. Intraoperatively, the edges were healthy, no debridement was needed, and repair was done after good irrigation by normal saline by single layer using absorbable suture material.

High index of suspicion is always required not to miss any injuries especially esophageal injuries, bearing in mind whenever you have one injury searching for others is rationale. Tracheostomy tube whenever applied in children needs more meticulous care than adult population.

Consent

Written informed consent was obtained from the parents for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Acknowledgements

We would like to acknowledge all our personnel who assisted in serving our patients.

References

1. Scheinin SA, Well PR (2001) Esophageal Perforation in a Sword Swallower. *Tex Heart Inst J* 28: 65-68.
2. Lima M (2013) Pediatric Thoracic Surgery. *Esophagus* 13: 172-178.
3. Shields TW (2009) General Thoracic Surgery. *The Esophagus* 7: 1687-2076.
4. James TW, Mattox KL, Matthew JJW (2007) Esophageal perforation: New perspectives and treatment paradigms. *J Trauma* 63: 1173-1184.
5. Pearson FG, Patterson GA (2008) Pearson's thoracic and esophageal surgery. *Ann Surg* 248: 1103-1104.
6. Kaman L, Iqbal J, Kundil B, Kochhar R (2010) Management of esophageal perforation in adults. *Gastroenterology Res* 3: 235-244.

7. Carrott PJ, Low DE (2011) Advances in the management of esophageal perforation. *Thoracic Surgery Clinics* 21: 541-555.
8. Deutsch ES (2010) Tracheostomy pediatric consideration. *Respiratory Care* 55: 1082-1090.