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# Pericardial flap in the management of recurrent tracheo-esophageal fistula: A Case Report

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**Abstract:** 5-10% of operated tracheo-esophageal fistulas (TEF) have recurrent fistulas. Our patient was a 10 month old female with repeated LRTIs and failure to thrive, whose fistula was diagnosed on oral contrast study. Fistula was dissected via right posterolateral thoracotomy and local pericardial flap placed between the repaired trachea and esophagus. Patient expired on post-operative day 14 due to hyper-reactive airway disease.
**Keywords:** pericardial, flap, recurrent, TEF.

## INTRODUCTION

5-11% of operated tracheo-esophageal fistulas have a recurrence [1]. This recurrence rate is found inspite of using a pleural interposition flap. We describe a case where primary repair of a Type C tracheo-esophageal fistula was done using a pleural flap and the recurrent fistula was closed using a pericardial interposition flap.

## CASE REPORT

A 10 month old female, operated in neonatal life for Type C tracheo-esophageal fistula, came to us with coughing and gagging during feeding. She was tachypneic on room air. She had previously been admitted with us thrice for lower respiratory tract infections. The mother also gave history of fever and refusal to feed since last 2 weeks. The patient was already on regular esophageal dilatation for anastomotic site stricture. Her weight was only 3.6kg. On auscultation, her chest revealed bilateral fine crepts. Her chest radiograph haziness in bilateral lung fields. A contrast study was done under fluoroscopy in prone position which revealed the fistula. (Fig. 1)

Patient's routine investigations were as follows: Hb-7.9, TLC-16200, Platelet- 2,80,000. Total proteins-5.9, Albumin-2.4. The plan was to build the patient up pre-operatively by giving full RT feeds in head high position, aggressive chest physiotherapy and nebulization. A dietician reference was also taken for high protein diet. Prokinetics and antacids were given. Blood was transfused to build up the hemoglobin levels.

Patient was operated by a right posterolateral transpleural thoracotomy. Fistula was delineated, hooked and transected with closure of both esophageal and tracheal ends. (Fig 2) To prevent recurrence, a vascularized pericardial flap was placed in between the suture lines of esophagus and the trachea and wrapped partially around the esophagus (Fig 3). A Ryle's tube was kept as a stent.

Patient was shifted on ventilator. She developed hyper-reactive airway disease and tracheostomy was done on post operative day 7. Patient expired on day 14 of surgery. Till then there was no evidence of a leak.

**Fig-1: Fluoroscopy delineating the fistula**

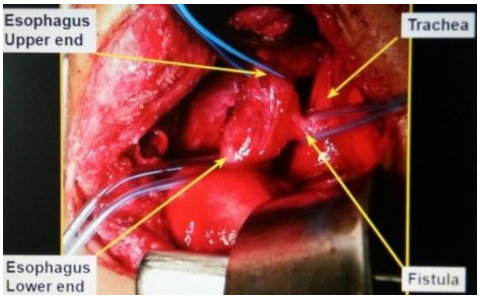


**Fig-2: Fistula hooked showing esophagus and trachea clearly**

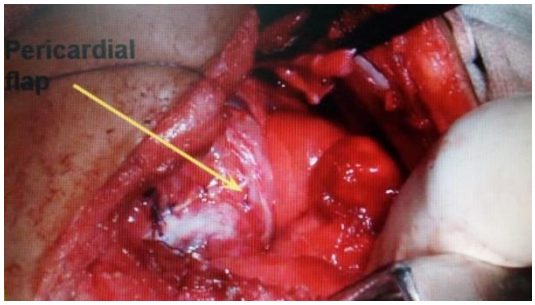


**Fig-3: Placement of pericardial flap**

## DISCUSSION

Diagnosis of a recurrent tracheo-esophageal fistula is very difficult. A contrast study can be performed but does not always give positive results. In such circumstances flexible bronchoscopy can be very useful [2]. The patient generally comes with complaints of recurrent lower respiratory tract infections, not feeding well and inadequate weight gain.

There are a multitude of options to treat the fistula. Endoscopic repair is one of them. For a small and slender fistula, bronchoscopy and Bugbee fulguration of the mucosa of the fistula is done to de-epithelialize it. Then the fistula tract is sealed with fibrin glue (aprotinin) [3]. The results are quite good, but it works best for a small fistula. For a larger fistula, a thoracotomy approach is needed. The fistula is hooked, the esophagus and trachea are completely separated by sharp dissection and placing vascularized tissue, either pleura or pericardium, between the suture lines [3]. In our department, for primary repair of a fistula, we use vascularized pleural flap. In this case, for the first time, we chose to use a vascularized pericardial flap as we have experienced few patients having suture line leaks with the pleural flaps. It gave us a good result.

## CONCLUSION

Harvesting of a pericardial flap for placement over the suture lines is probably the best method to prevent a leak at the suture site in a case of recurrent tracheo-esophageal fistula.

## REFERENCES

1. Spitz L. Esophageal atresia: lessons I have learned in a 40-year experience. Journal of pediatric surgery. 2006 Oct 31; 41(10):1635-40.
2. Platnaris A, Lianou D, Kaditis AG. Recurrent tracheoesophageal fistula in children with repaired esophageal atresia and the usefulness of flexible bronchoscopy. Archivos de Bronconeumología (English Edition). 2015 Jan 1; 51(1):49-50.
3. Coran AG. Redo esophageal surgery: the diagnosis and management of recurrent tracheoesophageal fistula. Pediatric surgery international. 2013 Oct 1; 29(10):995-9.