

Bronchoscopic treatment of aerodigestive fistulas with ethanol.

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Introduction and Objective

Introduction: Benign aerodigestive fistula (bADF) is a rare pathology in adults and potentially fatal due to serious nutritional and infectious complications.

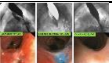

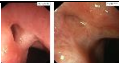
Objective: To describe the results of a simple, cheap, repeatable, and effective bronchoscopic technique for the closure of benign tracheoesophageal fistulae.

Material and Methods

Retrospective analysis of the efficacy of the use of absolute alcohol with or without the use of tissue glues in patients with bADF. Demographic data, etiology, previous treatments, bronchoscopic sessions, and of long-term bronchoscopic results were recorded.

Results:

Three patients with benign TEF have been treated for mediastinal tuberculosis, complications after surgery for esophageal carcinoma, and secondary to mediastinal Hodgkin lymphoma after treatment with polychemotherapy. The first patient was treated with a complete antituberculous regimen before endoscopic treatment and the other two with different types of esophageal stents without success. In all cases, percutaneous gastric or jejunal tube feeding was performed until the fistula was sealed. The three cases were treated with 2, 3, and 6 sessions of absolute alcohol injections with an interval of not less than 3 weeks before achieving definitive closure. No complications were recorded.

Characteristics of pts	Case 1	Case 2	Case 3
Age (years)	82	53	45
Gender	Female	Male	Male
Comorbidity	Hypertension. Ischemic heart disease. Atrial fibrillation	Complicated postoperative	Hyperuricemia
Predisposing disease	<ul style="list-style-type: none"> • Mediastinal Tuberculosis 	<ul style="list-style-type: none"> • Esophageal neoplasm cT3cN1M0 • Chemo-Radiotherapy Ny • Esophageal resection ypT0 ypN1a • Complication (suture dehiscence and abscess) 	<ul style="list-style-type: none"> • Hodgkin Lymphoma Stage IIBEX • Chemotherapy • Esophageal ulcer • Massive bleeding • Thyroid artery embolization
Etiology	Tuberculosis	Iatrogenic ulcer due to pigtail and esophageal stent (Wallflex 23 x 125)	Lymphoma and Chemotherapy
Symptom	Dysphagia. Cough with oral/fluid intake	Chest pain, vomiting, persistent cough and biliary sputum	Cough with oral/fluid intake
Time from TEF diagnosis and bronchoscopic treatment	7 months	1 month and 3 weeks	3 weeks
Location	Tracheal middle third	Distal trachea	Tracheal middle third
Size diameter	Punctiform	6 mm	3 mm
Previous treatments	<ul style="list-style-type: none"> • 2RHZ/4RH 	<ul style="list-style-type: none"> • Esophageal Stents (Hanaro DPC 20 x 110 y 20 x 90) • Endoclip, • Endoscopic suture 	<ul style="list-style-type: none"> • Covered Taewong stent 22 Fr 24 x 100
Other treatments	Percutaneous feeding tube	Percutaneous jejunostomy Roux Y Biliary bypass	Percutaneous feeding tube
N° Therapeutics Bronchoscopies	2	3	6
Ethanol dose	0.6 mL.	1.5 mL.	1.9 mL.
Time from first bronchoscopic treatment to cure	6 months	4 months	10 months
Follow-up	12 months	2 years	15 months
Pre-post Image			

Conclusion

The injection of absolute alcohol is a safe, simple, and cheap treatment for FADb. Several sessions are necessary and it requires prolonged nutritional support through percutaneous enteric tubes until definitive closure.