Treatment of Acquired Chronic Esophagopleural Fistula by Endoscopic Cauterization*

Julio Agosti, M.D., F.C.C.P.; Carlos Nojek, M.D.; and Diego Figuera, M.D., F.C.C.P.

Successful treatment of an eight-year-old esophagopleural fistula by means of endoscopic cauterization with an alkaline solution is reported. Previous therapeutic attempts with other more conventional measures had failed. The technique of the successful treatment is described. No complications could be attributed to its use.

In 1975, McCluskie1 described a procedure for the endoscopic cauterization of late esophageal fistulae, which was successfully applied in nine cases. Induced by this report, we decided to use this therapeutic procedure, following McCluskie's1 description, on a patient with an esophagopleural fistula of eight years' evolution, who had been previously subjected to multiple therapeutic attempts, albeit without success. After endoscopic cauterization, closure of the fistula was achieved within two months. The simplicity of the procedure and the lack of complications derived from its employment lead us to believe that the technique might be very useful in treatment of this type lesion.

Case Report

A man born on Nov 22, 1928 was first seen at our medical service in 1968, complaining of "fever of unknown origin." His previous history yielded only antecedent right superior pulmonary lobectomy following thoracic trauma due to a traffic accident at the beginning of 1965. In March 1969, right pleural empyema secondary to bronchopleural fistula was diagnosed, and the patient was treated with drainage, which was followed by decortication once the primary therapeutic course had failed.

Persistent fever continued during the postoperative period, and on Oct 17, 1969, the presence of an esophagopleural fistula was demonstrated (Fig 1). Because it was thought that the fistula was small, it was decided to wait and observe the evolution.

Intercurrent bouts of fever, pain in the chest, and cough with purulent expectoration related to ingestion, which became increasingly frequent, were the bases for recommending gastrostomy, which was performed on Jan 19, 1970, without achieving remission of the symptoms described. In October 1970, the fistula was directly approached and closed in three layers, and at the same time a thoracoplasty was performed in order to reduce the cavity of the pleural empyema in the posterior mediastinum, discovered during surgery. Shortly after this surgical procedure, the bouts of fever and the episodes of cough with purulent expectoration recurred, and the persistence of the fistulous tract was demonstrated roentgenographically.

Up to 1976, the patient's symptoms remained constant, yet without dysphagia, with intercurrent bouts of fever (which remitted under antibiotic therapy) at a frequency of about one per month. A roentgenographic study performed in May 1976 confirmed the persistence of the pre-

*From the Department of Thoracic and Cardiovascular Surgery, Clínica Puerta de Hierro, Universidad Autónoma de Madrid, Madrid, Spain.

Reprint requests: Dr. Agosti, Clínica Puerta de Hierro, Madrid 35, Spain

Figure 1. Chest x-ray film demonstrating presence of esophagopleural fistula.

Figure 2. Two months after cauterization there was closure of pathologic communication.
viously described esophagopleural fistula, and on these
grounds, it was decided to apply the therapeutic measures
described hereafter.

Description of the Technique

On June 25, 1976, the patient was placed under general
anesthesia, and the fistula was endoscopically visualized.
In our case the fistula was located within an esophageal
diverticulum, 20 cm from the upper incisors. The stoma of
the diverticulum was about as large as the esophagus it-
self. At this level, four or five cotton pledgets soaked in a
20 percent solution of sodium hydroxide were placed. The
pledgets were then removed after three to four minutes,
and the surrounding area was neutralized with a 30 per-
cent solution of acetic acid, the procedure being thereafter
concluded.

Evolution

The patient was released from the hospital on the same
day that the procedure was performed, and he reported
no later complications derived therefrom. Fifteen days later,
a roentgenographic study was performed, at which time a
reduction of the width of the fistula was appreciated. A
follow-up study performed two months after surgery
demonstrated the complete closure of the fistulous tract,
leaving only the remnant image of a traction diverticulum,
this was the first time in the patient’s history that the
closure of the pathologic communication was demonstra-
ted (Fig 2). As of January 1977, the patient remains asympto-
matic.

Discussion

The working principle of this therapeutic procedure is
well known, i.e., the caustic irritation of the esophageal
mucosa induces a hyperplastic cicatricial reaction, the
anatomic substrate of the caustic-induced stenosis. The
selective application of an alkali within these fistulae
produces, in our opinion, a similar reaction tending to
the gradual occlusion of the fistulous orifice. Due to the
effectiveness, simplicity and lack of derived complica-
tions of this procedure, we think that it might be useful
in the treatment of these pathologic processes.

Reference

1 McCluskie RA: Endoscopic treatment of late esophageal
fistulae. Read before the Society of Thoracic and Cardio-
vascular Surgeons of Great Britain and Ireland, Glasgow,
Sept 25, 1975

Audible Atrial Sounds in Atrial
Flutter Modulating an Aortic
Regurgitant Murmur*

Echocardiographic and Phonocardiographic
Correlates

Sydney J. Mehl, M.D., and Paul A. Tunick, M.D.

*From the Department of Medicine, New York University
School of Medicine, New York City.
Reprint requests: Dr. Mehl, New York University School of
Medicine, 586 First Avenue, New York City 10016

CHEST, 73: 1, JANUARY, 1978

The findings in a patient with atrial flutter whose audible
atrial sounds uniquely modulated an aortic regurgit-
tant murmur are presented, with phonocardiographic
and echocardiographic correlates, which suggest a ven-
tricular origin for these sounds.

Previous reports have documented the occurrence of
audible atrial sounds in atrial flutter1-3 and fibrillation.4 We report the echocardiographic and
phonocardiographic features in a patient with atrial
flutter, whose audible atrial sounds modified an aortic
regurgitant murmur in a unique fashion.

Case Report

A 76-year-old man was referred because of a slow heart
rate. Four years ago, he was treated for tertiary syphilis
and congestive heart failure. Atrial flutter with high-degree atrio-
ventricular block was discovered on a recent follow-up
visit, and the patient was admitted to the hospital. He
denied cardiac symptoms.

Physical examination revealed blood pressure of 138/40
mm Hg and an irregular pulse rate of 40 beats per minute.
The veins in the neck were distended, with prominent flutter
and c-v waves. The carotid pulses were bounding. The
first heart sound was loud, and the second heart sound was
single. A grade 2/6 holosystolic murmur was audible at
the lower left sternal border. A grade 2/6 musical decrescendo
diastolic murmur was heard at the middle left sternal
border, with wide radiation. This diastolic murmur increased
sharply in intensity at two points in diastole which appeared
to be synchronous with venous flutter waves, imparting a whooping quality to the murmur. The liver was
pulsatile. Neurologic examination showed disorientation, an
ataxic gait, and Romberg’s sign.

The chest x-ray film revealed left ventricular enlargement,
without calcifications or aortic dilatation. The electrocardio-
gram showed atrial flutter at a rate of 220 impulses per
minute and high-degree atrioventricular block, with a
ventricular response of 35 to 45 beats per minute. The level
of digoxin on admission was 2.9 ng/ml. The results of
serologic tests for syphilis were positive. The urinary level
of 5-hydroxyindoleacetic acid was normal.

Despite the discontinuation of therapy with digitalis, the
patient’s ventricular response did not increase, and a tem-
porary pacemaker was inserted. After four days the cardiac